



Appendix A. Calibration Certificate

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Certificate of Calibration



校准证书

CALIBRATION CERTIFICATE

证书编号:
Certificate No.



J201902213241-0009

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委托方
Client

华为技术有限公司

委托方地址
Address

广东省深圳市龙岗区坂田华为基地

仪器名称
Description

场强测试仪

型号/规格
Model/Type

EHP-200A

制造厂
Manufacturer

Narda

出厂编号
Serial No.

170WX81023

管理号
Asset No.

A181274678

校准日期

2019年03月04日

Date of Calibration

Y M D

样品接收日期

2019年02月22日

Date of Receipt

Y M D

批准人:

Approved Signatory

钟毅 (副总工)

审核:

Inspected by

曾桂胜

校准:

Calibrated by

梁继荣

证书专用章
(Stamp)

总部地址: 广东省广州市黄埔大道西平云路163号 (分场所地址见公司网站)

Headquarters Address: No.163. Pingyun Rd, West of HuangPu Ave. Guangzhou.
Guangdong, China (Each Address Can be Found on The Company's Website)

计量校准机构备案号 (The record number): 粤校备2017A019; (2014)浙量校
(浙)S001号; (2018)宁量校(备)N003号; [2016]苏量校备S002号

联系电话 (Tel.): 020-38699960, 66830999, 400-602-0999

传真 (Fax): 020-38695185

网站 (Website): [http:// www.grgtest.com](http://www.grgtest.com)

邮政编码 (Postcode): 510656

电子邮件 (E-mail): grgtest@grgtest.com



扫一扫验真伪

校 准 说 明

DIRECTIONS OF CALIBRATION

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1. 本实验室出具的数据均可溯源至国家计量基准和国际单位制(SI).
(All data issued by GRGTest are traced to National Primary Standards and International System of Units(SI).)
2. 本结果仅对当次被测样品有效, 如有疑问请在15个工作日内反馈。(The result is ONLY valid for the tested sample, please feedback to us within 15 working 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。
(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.)
4. 证书中如有最大允许误差、判定结果, 仅供参考, 其中“P”代表“合格”, “F”代表“不合格”。使用人员还应结合实际测量要求, 评估校准结果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" represents "Pass" and "F" represents "Fail".Whereas users should evaluate the effects of measurement uncertainty of calibration results on conformity determination associated with actual measurement.)
- 5.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。注: 详细的认可范围请查看CNAS网站中注册编号为L0446的证书附件。(Reference document and accredited scope by CNAS for calibration, beyond which isn't accredited. Please see the attachment of certificate No.L0446 on CNAS website for details.)
IEEE std 1309-2013频率为9kHz~40GHz的电磁场传感器和探头(天线除外)的校准:场强
(1~1100)V/m,(0.01~2)A/m(10Hz~9kHz);(0.1~150)V/m,(0.01~1)A/m(9kHz~40GHz)

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

名称 / 型号	编 号	证书号/有效期	溯源机构	技术特征
Description / Model	Serial No.	Certificate No./ Due Date	Traceability Institute	Technique Character
函数信号发生器/AFG1062	1601276	J201807066572-0008 2019-07-04	广州广电计量检测股份有限公司	频率准确度: 2E-6;幅度准确度: $\pm 1\%$
探头/NRP40T	1424.6150K02-101067-ES	GFJGJL1002180004781 2019-04-24	北京无线电计量测试研究所	功率测量的不确定度: $U_{rel}=0.010\% (k=2)$
TEM小室/TEMZ5233	00010	J201811269153-0003 2019-11-25	广州广电计量检测股份有限公司	$U \leq 0.03\text{dB} (k=2)$
微波功率放大器/350AH1A	0350948	J201812288400-0006 2020-01-02	广州广电计量检测股份有限公司	功率: 350W (10Hz-1MHz)
大功率衰减器/WDTS1000-50dB-6G-A	16031401	J201902114630-0001 2020-02-10	广州广电计量检测股份有限公司	MPE:2.0dB $k=2$

7. 校准地点、环境条件(Place and environmental conditions of the calibration):

地点	广州计量大功率室	温度	23	℃	相对湿度	48	%
Place		Temperature			Relative Humidity		

8. 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.

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、场强测量准确度:

Field Strength Measuring Accuracy:

频率	标准场强	指示值	校准因子	偏差值	允许误差	不确定度	结 论
Frequency	Reference	Indicated	Cal Factor	Deviation	MPE	$U(k=2)$	Conclusion
(MHz)	(V/m)	(V/m)	/	(%)	(%)	(dB)	(Pass/Fail)
0.13	2.00	2.1336	0.94	6.68	± 10.0	0.8	P
	5.00	5.2712	0.95	5.42	± 10.0	0.8	P
	10.00	10.472	0.95	4.72	± 10.0	0.8	P
	20.00	20.554	0.97	2.77	± 10.0	0.8	P
	50.00	52.448	0.95	4.90	± 10.0	0.8	P
	100.00	104.07	0.96	4.07	± 10.0	0.8	P
15	2.00	1.8954	1.06	-5.23	± 10.0	0.8	P
	5.00	4.7973	1.04	-4.05	± 10.0	0.8	P
	10.00	9.8645	1.01	-1.36	± 10.0	0.8	P
	20.00	19.684	1.02	-1.58	± 10.0	0.8	P
	50.00	48.418	1.03	-3.16	± 10.0	0.8	P
	100.00	97.376	1.03	-2.62	± 10.0	0.8	P

校 准 结 果
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4、频率响应

Frequency Response

频率	标准场强	指示值	校准因子	偏差值	允许误差	不确定度	结 论
Frequency	Reference	Indicated	Cal Factor	Deviation	MPE	$U(k=2)$	Conclusion
(MHz)	(V/m)	(V/m)	/	(%)	(%)	(dB)	(Pass/Fail)
0.01	20.00	20.402	0.98	2.01	± 10.0	0.8	P
0.10	20.00	20.114	0.99	0.57	± 10.0	0.8	P
0.11	20.00	20.293	0.99	1.47	± 10.0	0.8	P
0.13	20.00	20.545	0.97	2.73	± 10.0	0.8	P
0.15	20.00	20.342	0.98	1.71	± 10.0	0.8	P
0.5	20.00	20.641	0.97	3.20	± 10.0	0.8	P
1	20.00	20.508	0.98	2.54	± 10.0	0.8	P
2	20.00	20.244	0.99	1.22	± 10.0	0.8	P
4	20.00	20.123	0.99	0.62	± 10.0	0.8	P
8	20.00	19.482	1.03	-2.59	± 10.0	0.8	P
16	20.00	19.724	1.01	-1.38	± 10.0	0.8	P
30	20.00	18.964	1.05	-5.18	± 10.0	0.8	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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