中国赛宝实验室计量检测中心
(工业和信息化部电子第五研究所计量检测中心)
CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

校 准 证 书
CALIBRATION CERTIFICATE

证书编号：1JA23000010-0001
Certificate No.

中国认可
国际互认
校准
CALIBRATION
CNAS L13344

委托单位：Client	华瑞赛维（宿州）科技有限公司/Huarui 7layers High Technology (Suzhou) Co., Ltd
委托方地址：Address	安徽省宿州市高新区竹邑路88号创业中心N座/Tower N, Innovation Center, 88 Zhuyi Road, High-tech District, Suzhou City, Anhui Province, P.R.CHINA
仪器名称：Description	测试前端
型号规格：Model/Type	labCORE/labBGN
制造商：Manufacturer	/
机身号：Serial No.	77000207/64860403
管理号：Asset No.	SZ-YP2020002/SZ-YP2020003
接收日期：Rec. Date	2022-12-15
校准日期：Cal. Date	2022-12-15
签发日期：App. Date	2023-01-03
建议校准周期：Reference Cal. Period	12个月(12 months)
结论：Conclusion	所校准项目符合技术要求(The calibrated items meet the technical requirements)

校准：Calibrated by 徐俊 徐俊

核验：Inspected by 曹慧慧 曹慧慧

签发：Approved by 田立丰

印章：Stamp

扫一扫查真伪

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说　明
DIRECTIONS

1. 本机构质量管理体系符合ISO/IEC 17025:2017标准的要求，获得中国合格评定国家认可委员会（CNAS）认可，认可证书号为：CNAS L13344。
This laboratory quality management system meets the ISO/IEC 17025:2017 and is accredited by the China National Accreditation Service for Conformity Assessment, No. CNAS L13344.

2. 本机构出具的数据均可溯源到国际单位制（SI）单位和社会公用计量标准。
The data issued by this laboratory is traceable to International system of Units（SI）and national primary standards.

3. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes)：
- JJG 834-2006 动态信号分析仪检定规程：Frequency：1mHz～200kHz；Voltage:10mV～10V,(1Hz～100kHz)
- JJF 1288-2011 多通道声分析仪校准规范： Sound pressure level:(20～130)dB;Voltage:1mV～100V;Frequency:1Hz～30kHz;Total distortion:(0.01～100)%

* 详细内容请查看CNAS网站中注册编号为L13344的证书附件，超出范围的内容未被认可，其结果/结论所依据的合格评定活动不在认可范围内。(Please see the attachment of certificate No. L13344 at CNAS website for details, beyond which is not accredited, the conformity assessment activities on which the results/conclusions are based are outside the scope of accreditation.)

4. 本次校准所使用的主要测量标准(The main measurement standards used during the calibration)：

名　称 (Description)	证书号/有效期/溯源单位 (Certificate No./Due Date/Traceability to)	技术指标 (Specification)	测量范围 (Measuring Range)
PULSE分析系统(3160-107274)	4JC21000116-0020/2023-01-04/赛宝(苏州)	频率:U_{rel}=0.001%,k=2;电压:U_{rel}=0.04%,k=2	频率:0.001Hz~51.2kHz,电压:(1×10^{-5}～30)V
数字万用表(US361086446)	4JC21000116-0080/2023-01-12/赛宝(苏州)	DCV：±0.0035%；ACV：±0.06%；DCI：±0.05%；ACI：±0.1%；R：±0.01%；f：±0.001%	DCV:(0～1000)V；ACV:(0.001～750)V@(3Hz～300kHz)；DCI:(0～3)A；ACI:(0～3)A@(3Hz～5kHz)；R:(0～100)MΩ；f:3Hz～300kHz

5. 校准地点(The calibration place)：
安徽省宿州市高新区竹邑路88号创业中心N座一楼实验室

6. 环境条件(Environmental conditions)：
温度(Temperature)：12℃　　相对湿度(Relative Humidity)：48%

7. 本证书中给出的扩展不确定度依据JJF1059.1-2012《测量不确定度的评定与表示》评定，由合成标准不确定度乘以包含概率约为95%时对应的包含因子*k*得到。
The extended uncertainty given in this certificate is evaluated according to JJF1059.1-2012 “Evaluation and Expression of Uncertainty in Measurement”, and is calculated by multiplying the combined standard uncertainty by the coverage factor *k* which corresponding to the coverage probability about 95%.

8. 证书中"P"、"合格"代表"测量结果在允许范围内"，"F"、"不合格"代表"测量结果不在允许范围内"，"N/A"代表"不适用或技术指标暂时无法确认等"。本证书报告的结论仅供参考，使用人员应结合实际测量的要求合理使用，如考虑测量结果测量不确定度的影响等。
"P" and "Pass" in this certificate stand for "Low Limit≤the measured value ≤High Limit", "F" and "Fail" stand for "the measured value＜Low Limit or the measured value＞High Limit", "N/A" stands for "Not Applicable or The technical specification has not been confirmed etc".The conclusions of this certificate are for reference only. Users should use them reasonably according to the actual measurement requirements, such as considering the impact of measurement uncertainty, etc.

9. 建议校准周期是本实验室依据本证书报告的技术依据和仪器设备常规使用条件给出的建议，供委托方参考。委托方可以根据实际使用情况自行决定样品的校准周期。
The reference calibration period is based on the reference documents and normal operating conditions of the calibrated instrument. It is only for reference. The client may decide the calibration period of the instrument according to the actual use.

注: 1.本证书未经本机构书面授权，不得部分复制。(The certificate shall not be partly reproduced without written approval of the laboratory.)

2.本次校准结果仅与被校物有关。(The results are only related to the items calibrated.)

3.“委托方”、“委托方联络信息”由委托方提供，“制造厂”、“型号规格”、“出厂编号”以及“设备编号”为仪器上标注，委托方对上面内容如有异议，须在收到证书后二十个工作日内提出。
The information Client and Contact Information are provided by client, and the Manufacurer, Model/Type, Serial No. and Equipment No. are marked on the items.Client shall submit any objection within 20 working days after receiving the certificate for the information above.

1 外观与工作正常性检查（Appearance and Function Check）

无影响证书中测量结果准确度的因素和缺陷。

There are no factor and defect that affect the measurement result accuracy of the certificate.

2 线性度(Linearity)　　Frequency： 1000 Hz

标准值 (Reference) (dB)	示值 (Indication) (dB)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail) (P/F)	U_{rel} (k=2) (dB)
94.0	94.0	0.0	±0.6	P	0.3
84.0	84.0	0.0	±0.6	P	0.3
74.0	74.0	0.0	±0.6	P	0.3
64.0	64.0	0.0	±0.6		0.3
54.0	54.0	0.0	±0.6	P	0.3
44.0	44.0	0.0	±0.6	P	0.3
34.0	34.1	0.1	±0.6	P	0.3

3 A计权特性(A-Weighting Characteristic)

频率 (Frequency) (Hz)	标准值 (Reference) (dB)	示值 (Indication) (dB)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail) (P/F)	U_{rel} (k=2) (dB)
100	-19.1	-19.0	-0.1	±1.5	P	0.5
125	-16.1	-16.1	0.0	±1.5	P	0.5
160	-13.4	-13.3	-0.1	±1.5	P	0.5
200	-10.9	-10.8	-0.1	±1.5	P	0.5
250	-8.6	-8.6	0.0	±1.4	P	0.4
315	-6.6	-6.6	0.0	±1.4	P	0.4
400	-4.8	-4.8	0.0	±1.4	P	0.4
500	-3.2	-3.3	0.1	±1.4	P	0.4
630	-1.9	-1.8	-0.1	±1.4	P	0.4
800	-0.8	-0.8	0.0	±1.4	P	0.4
1000(Ref.)	0.0	0.0	0.0	±1.1	P	0.4
1250	0.6	0.6	0.0	±1.4	P	0.4
1600	1.0	1.0	0.0	±1.6	P	0.6
2000	1.2	1.1	0.1	±1.6	P	0.6
2500	1.3	1.3	0.0	±1.6	P	0.6
3150	1.2	1.2	0.0	±1.6	P	0.6
4000	1.0	1.0	0.0	±1.6	P	0.6
5000	0.5	0.5	0.0	±2.1	P	0.6
6300	-0.1	-0.1	0.0	+2.1~ -2.6	P	0.6
8000	-1.1	-1.0	-0.1	+2.1~ -3.1	P	0.6
10000	-2.5	-2.3	-0.2	+2.6~ -3.6	P	0.6
12500	-4.3	-4.0	-0.3	+3.0~ -6.0	P	1.0
16000	-6.6	-6.4	-0.2	+3.5~ -17.0	P	1.0
20000	-9.3	-9.0	-0.3	+4.0~ -∞	P	1.0

4 信号源频率(Generator Frequency)　　输出电平(Output Level) : 1V

示值 (Indication) (Hz)	标准值 (Reference) (Hz)	误差 (Error) (%)	允许误差 (Limit) (%)	结论 (Pass/Fail) (P/F)	U_{rel} (k=2) (%)
20	20.00	0.0	±1.0	P	0.1
50	50.00	0.0	±1.0	P	0.1
100	100.00	0.0	±1.0	P	0.1
200	200.00	0.0	±1.0	P	0.1
500	500.00	0.0	±1.0	P	0.1
1000	1000.0	0.0	±1.0	P	0.1
2000	2000.0	0.0	±1.0	P	0.1
5000	5000.0	0.0	±1.0	P	0.1
10000	10000.0	0.0	±1.0	P	0.1
20000	20000.0	0.0	±1.0	P	0.1

5 输出电压(Output Voltage)　　频率(Frequency) : 1kHz

示值 (Indication) (V)	标准值 (Reference) (V)	误差 (Error) (%)	允许误差 (Limit) (%)	结论 (Pass/Fail) (P/F)	U_{rel} (k=2) (%)
2.000	1.9939	0.3	±2.5	P	0.2
1.000	0.99954	0.0	±2.5	P	0.2
0.5000	0.49988	0.0	±2.5	P	0.2
0.2000	0.19998	0.0	±2.5	P	0.2
0.1000	0.099998	0.0	±2.5	P	0.2

6 幅频特性(Amplitude-Frequency Characteristic)

频率 (Frequency) (Hz)	标准值 (Reference) (V)	平坦度 (Flatness) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail) (P/F)	U (k=2) (dB)
20	1.0004	0.01	±0.5	P	0.1
50	1.0004	0.01	±0.5	P	0.1
100	1.0004	0.01	±0.5	P	0.1
200	1.0003	0.01	±0.5	P	0.1
500	0.99988	0.00	±0.5	P	0.1
1000	0.99943	0.00	Ref.		0.1
2000	1.0001	0.01	±0.5	P	0.1
5000	0.99946	0.00	±0.5	P	0.1
10000	0.99932	0.00	±0.5	P	0.1
20000	0.99307	-0.06	±0.5	P	0.1

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校 准 证 书

CALIBRATION CERTIFICATE

证书编号：
Certificate No. J202206098549A-0003

委 托 方 Client	华瑞赛维（宿州）科技有限公司 Huarui 7layers High Technology(Suzhou) Co., Ltd
联络信息 Contact Inf.	安徽省宿州市高新区竹邑路88号创业中心N座 Tower N,Innovation Center, 88 Zhuyi Road, High-tech District, Suzhou City,Anhui Province, P.R.CHINA
仪器名称 Description	数字通信综合测试仪
型号/规格 Model/Type	CMW500
制 造 厂 Manufacturer	Rohde&Schwarz
出厂编号 Serial No.	169199
管 理 号 Asset No.	SZ-YP2020001
接收日期 Receipt Date	2022年06月27日 Y M D
校准日期 Cal. Date	2022年06月27日 Y M D
发布日期 Issued Date	2022年06月27日 Y M D
批 准 Approved by	李建征
审 核 Inspected by	贺鹏飞
校 准 Calibrated by	杜荣凯

证书专用章
(Stamp)

校 准 说 明
DIRECTIONS OF CALIBRATION

1.本实验室的质量管理体系符合ISO/IEC 17025:2017标准的要求。
(The quality system is in accordance with ISO/IEC 17025:2017.)

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 laboratroy .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。
(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 MU 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。详细认可范围请查看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.)

JJF 1177-2007 CDMA数字移动通信综合测试仪校准规范(C.S. of CDMA Digital Radio Communication Testers) 电平：(-120~20)dBm EVM：0.01%~10% 频率误差：(-1~+1)MHz 相位误差：(0~360)°射频功率测量：(-90~30)dBm
JJF 1204-2008 TD-SCDMA 数字移动通信综合测试仪校准规范(C.S. for TD-SCDMA Digital Radio Communication Testers) 电平：(-120~20)dBm EVM：0.01%~10% 频率误差：(-1~+1)MHz 相位误差：(0~360)°射频功率测量：(-90~30)dBm
JJF 1276-2011 宽带码分多址接入(WCDMA)数字移校准规范(C.S. for WCDMA Digital Radio Communication Testers) 电平：(-120~20)dBm EVM：0.01%~10% 频率误差：(-1~+1)MHz 相位误差：(0~360)°射频功率测量：(-90~30)dBm
JJF 1131-2005 TDMA-GSM数字移动通信综合测试仪校准规范(C.S. for TDMA-GSM Radio Communication Testers) 电平：(-120~20)dBm EVM：0.01%~10% 频率误差：(-1~+1)MHz 相位误差：(0~360)°射频功率测量：(-90~30)dBm
JJF 1443-2014 LTE数字移动通信综合测试仪校准规范(C.S. for LTE Digital Radio Communicter) 电平：(-120~20)dBm EVM：0.01%~10% 频率误差：(-1~+1)MHz 相位误差：(0~360)°射频功率测量：(-90~30)dBm
JJF 1277-2011 无线局域网测试仪校准规范(C.S. for WLAN Test Set) 电平：(-104~20)dBm 误差矢量幅度：(0.01~10)% 频率误差：(-1~+1)MHz 符号时钟误差：(-100~+100)E-6
JJF 1278-2011 蓝牙测试仪校准规范(C.S. fo Bluetooth Test Set) 电平：(-90~20)dBm GFSK调频指数：GFSK(2.4~6)GHz 差分误差矢量幅度：π4-DQPSK，8DPSK(2.4~6)GHz 频率误差：(-1~+1)MHz

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 Description / Model	编 号 Serial No.	证书号/有效期 Certificate No./ Due Date	溯源机构 Traceability Institute	技术特征 Technique Character
频谱分析仪	MY50330758	J202106281964-0004 2022/7/5	广州广电计量检测股份有限公司	总体幅度精度:±0.23dB; 频率校准不确定度:1E-8
功率计E4416A+功率计探头E9304A	MY60230004/MY60340003	J202109075895-0001等 2022/9/9	广州广电计量检测股份有限公司	MPE:±0.02dB
频率计	6E5042021	J202203305317-0004 2023/4/5	广州广电计量检测股份有限公司	准确度:优于5E-8; 稳定度:优于1E-10
信号发生器	MY48180307	J202205309525-0006 2023/6/7	广州广电计量检测股份有限公司	Level:±0.24dB； AM:±4%； FM:±2%; f:1E-7

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

地点 Place 客户二楼实验室 温度 Temperature 21 ℃ 相对湿度 Relative Humidity 60 %

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

1、外观以及一般性检查：正常
In view of External and Generality check : Pass

2、参考震荡器频率 (Timebase basicOCXO)
Reference Oscillator Frequency

标称值 Nominal (MHz)	实测值 Measured (MHz)	误差 Error (Hz)	不确定度 $U_{rel}(k=2)$ (/)	允许误差 MPE (Hz)	结 论 Conclusion (Pass/Fail)
10	10.0000007	-0.7	6E-08	± 1.7	P

3、射频信号发生器(RF Genarator)
3.1、输出频率(Port:RF1 COM)
Output Frequency

标称值 Nominal (MHz)	实测值 Measured (MHz)	误差 Error (Hz)	不确定度 $U_{rel}(k=2)$ (/)	允许误差 MPE (Hz)	结 论 Conclusion (Pass/Fail)
70	70.000005	-5	6E-08	± 12	P
100	100.000008	-8	6E-08	± 17	P
500	500.000038	-38	6E-08	± 85	P
900	900.000069	-69	6E-08	± 153	P
1800	1800.000138	-138	6E-08	± 306	P
2600	2600.000200	-200	6E-08	± 442	P
3300	3300.000253	-253	6E-08	± 561	P
3800	3800.000292	-292	6E-08	± 646	P
4900	4900.000376	-376	6E-08	± 833	P
5500	5500.000422	-422	6E-08	± 935	P
6000	6000.000460	-460	6E-08	± 1020	P

3.2、射频输出电平
RF Output Level
3.2.1、端口(Port): RF1 COM

频率 Frequency (MHz)	标称值 Nominal (dBm)	实测值 Measured (dBm)	误差 Error (dB)	不确定度 $U(k=2)$ (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	-5	-5.28	0.28	0.24	± 1.0	P
2000	-10	-10.25	0.25	0.24	± 1.0	P
2000	-20	-20.21	0.21	0.24	± 1.0	P
2000	-30	-30.19	0.19	0.24	± 1.0	P
2000	-40	-40.22	0.22	0.24	± 1.0	P
2000	-50	-50.21	0.21	0.24	± 1.0	P
2000	-60	-60.19	0.19	0.24	± 1.0	P
2000	-70	-70.24	0.24	0.24	± 1.0	P
2000	-80	-80.30	0.30	0.24	± 1.0	P

校 准 结 果
RESULTS OF CALIBRATION

频率 Frequency (MHz)	标称值 Nominal (dBm)	实测值 Measured (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	-90	-90.34	0.34	0.39	± 1.0	P
2000	-100	-100.19	0.19	0.39	± 1.0	P
2000	-110	-109.97	-0.03	0.39	± 1.0	P
5000	-15	-15.48	0.48	0.24	± 2.0	P
5000	-20	-20.47	0.47	0.24	± 2.0	P
5000	-30	-30.49	0.49	0.24	± 2.0	P
5000	-40	-40.47	0.47	0.24	± 2.0	P
5000	-50	-50.46	0.46	0.24	± 2.0	P
5000	-60	-60.44	0.44	0.24	± 2.0	P
5000	-70	-70.52	0.52	0.24	± 2.0	P
5000	-80	-80.60	0.60	0.24	± 2.0	P
5000	-90	-90.51	0.51	0.47	± 2.0	P
5000	-100	-100.51	0.51	0.47	± 2.0	P
5000	-110	-110.47	0.47	0.47	± 2.0	P
70	-15	-15.08	0.08	0.24	± 2.0	P
100	-15	-15.10	0.10	0.24	± 2.0	P
500	-5	-5.13	0.13	0.24	± 1.0	P
900	-5	-5.24	0.24	0.24	± 1.0	P
1800	-5	-5.28	0.28	0.24	± 1.0	P
2100	-5	-5.39	0.39	0.24	± 1.0	P
2300	-5	-5.27	0.27	0.24	± 1.0	P
2600	-5	-5.44	0.44	0.24	± 1.0	P
3298	-5	-5.60	0.60	0.24	± 1.0	P
3800	-15	-15.37	0.37	0.24	± 2.0	P
4900	-15	-15.56	0.56	0.24	± 2.0	P
5500	-15	-15.69	0.69	0.24	± 2.0	P
6000	-15	-15.85	0.85	0.24	± 2.0	P

3.2.2、端口(Port): RF2 COM

频率 Frequency (MHz)	标称值 Nominal (dBm)	实测值 Measured (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	-5	-5.22	0.22	0.24	± 1.0	P
2000	-10	-10.17	0.17	0.24	± 1.0	P
2000	-20	-20.13	0.13	0.24	± 1.0	P
2000	-30	-30.08	0.08	0.24	± 1.0	P
2000	-40	-40.09	0.09	0.24	± 1.0	P
2000	-50	-50.08	0.08	0.24	± 1.0	P
2000	-60	-60.10	0.10	0.24	± 1.0	P
2000	-70	-70.11	0.11	0.24	± 1.0	P

校 准 结 果
RESULTS OF CALIBRATION

频率 Frequency (MHz)	标称值 Nominal (dBm)	实测值 Measured (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	-80	-80.17	0.17	0.24	± 1.0	P
2000	-90	-90.21	0.21	0.39	± 1.0	P
2000	-100	-100.17	0.17	0.39	± 1.0	P
2000	-110	-110.06	0.06	0.39	± 1.0	P
5000	-15	-15.34	0.34	0.24	± 2.0	P
5000	-20	-20.31	0.31	0.24	± 2.0	P
5000	-30	-30.35	0.35	0.24	± 2.0	P
5000	-40	-40.35	0.35	0.24	± 2.0	P
5000	-50	-50.35	0.35	0.24	± 2.0	P
5000	-60	-60.34	0.34	0.24	± 2.0	P
5000	-70	-70.39	0.39	0.24	± 2.0	P
5000	-80	-80.44	0.44	0.24	± 2.0	P
5000	-90	-90.39	0.39	0.47	± 2.0	P
5000	-100	-100.42	0.42	0.47	± 2.0	P
5000	-110	-110.56	0.56	0.47	± 2.0	P
70	-15	-15.11	0.11	0.24	± 2.0	P
100	-15	-15.07	0.07	0.24	± 2.0	P
500	-5	-5.17	0.17	0.24	± 1.0	P
900	-5	-5.11	0.11	0.24	± 1.0	P
1800	-5	-5.32	0.32	0.24	± 1.0	P
2100	-5	-5.30	0.30	0.24	± 1.0	P
2300	-5	-5.28	0.28	0.24	± 1.0	P
2600	-5	-5.38	0.38	0.24	± 1.0	P
3298	-5	-5.59	0.59	0.24	± 1.0	P
3800	-15	-15.27	0.27	0.24	± 2.0	P
4900	-15	-15.46	0.46	0.24	± 2.0	P
5500	-15	-15.40	0.40	0.24	± 2.0	P
6000	-15	-15.48	0.48	0.24	± 2.0	P

3.2.3、端口(Port): RF1 OUT

频率 Frequency (MHz)	标称值 Nominal (dBm)	实测值 Measured (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	3	2.71	0.29	0.24	± 1.0	P
2000	0	-0.27	0.27	0.24	± 1.0	P
2000	-10	-10.25	0.25	0.24	± 1.0	P
2000	-20	-20.17	0.17	0.24	± 1.0	P
2000	-30	-30.16	0.16	0.24	± 1.0	P
2000	-40	-40.14	0.14	0.24	± 1.0	P
2000	-50	-50.16	0.16	0.24	± 1.0	P

校 准 结 果
RESULTS OF CALIBRATION

频率 Frequency (MHz)	标称值 Nominal (dBm)	实测值 Measured (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	-60	-60.16	0.16	0.24	± 1.0	P
2000	-70	-70.21	0.21	0.24	± 1.0	P
2000	-80	-80.22	0.22	0.24	± 1.0	P
2000	-90	-90.23	0.23	0.39	± 1.0	P
2000	-100	-100.34	0.34	0.39	± 1.0	P
2000	-110	-110.54	0.54	0.39	± 1.0	P
5000	-7	-7.36	0.36	0.24	± 2.0	P
5000	-10	-10.39	0.39	0.24	± 2.0	P
5000	-20	-20.37	0.37	0.24	± 2.0	P
5000	-30	-30.38	0.38	0.24	± 2.0	P
5000	-40	-40.39	0.39	0.24	± 2.0	P
5000	-50	-50.34	0.34	0.24	± 2.0	P
5000	-60	-60.37	0.37	0.24	± 2.0	P
5000	-70	-70.46	0.46	0.24	± 2.0	P
5000	-80	-80.37	0.37	0.24	± 2.0	P
5000	-90	-90.49	0.49	0.47	± 2.0	P
5000	-100	-100.50	0.50	0.47	± 2.0	P
5000	-110	-110.40	0.40	0.47	± 2.0	P
70	-7	-7.08	0.08	0.24	± 2.0	P
100	-7	-7.14	0.14	0.24	± 2.0	P
500	0	-0.16	0.16	0.24	± 1.0	P
900	0	-0.21	0.21	0.24	± 1.0	P
1800	0	-0.31	0.31	0.24	± 1.0	P
2100	0	-0.35	0.35	0.24	± 1.0	P
2300	0	-0.29	0.29	0.24	± 1.0	P
2600	0	-0.38	0.38	0.24	± 1.0	P
3298	0	-0.61	0.61	0.24	± 1.0	P
3800	-7	-7.31	0.31	0.24	± 2.0	P
4900	-7	-7.50	0.50	0.24	± 2.0	P
5500	-7	-7.48	0.48	0.24	± 2.0	P
6000	-7	-7.64	0.64	0.24	± 2.0	P

校 准 结 果
RESULTS OF CALIBRATION

3.2.4、端口(Port): RF3 COM

频率 Frequency (MHz)	标称值 Nominal (dBm)	实测值 Measured (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	-5	-5.24	0.24	0.24	± 1.0	P
2000	-10	-10.21	0.21	0.24	± 1.0	P
2000	-20	-20.17	0.17	0.24	± 1.0	P
2000	-30	-30.43	0.43	0.24	± 1.0	P
2000	-40	-40.42	0.42	0.24	± 1.0	P
2000	-50	-50.40	0.40	0.24	± 1.0	P
2000	-60	-60.39	0.39	0.24	± 1.0	P
2000	-70	-70.46	0.46	0.24	± 1.0	P
2000	-80	-80.50	0.50	0.24	± 1.0	P
2000	-90	-90.55	0.55	0.39	± 1.0	P
2000	-100	-100.59	0.59	0.39	± 1.0	P
2000	-110	-110.61	0.61	0.39	± 1.0	P
5000	-15	-15.14	0.14	0.24	± 2.0	P
5000	-20	-20.15	0.15	0.24	± 2.0	P
5000	-30	-30.39	0.39	0.24	± 2.0	P
5000	-40	-40.35	0.35	0.24	± 2.0	P
5000	-50	-50.35	0.35	0.24	± 2.0	P
5000	-60	-60.31	0.31	0.24	± 2.0	P
5000	-70	-70.36	0.36	0.24	± 2.0	P
5000	-80	-80.43	0.43	0.24	± 2.0	P
5000	-90	-90.43	0.43	0.47	± 2.0	P
5000	-100	-100.47	0.47	0.47	± 2.0	P
5000	-110	-110.69	0.69	0.47	± 2.0	P
70	-15	-15.05	0.05	0.24	± 2.0	P
100	-15	-15.09	0.09	0.24	± 2.0	P
500	-5	-5.11	0.11	0.24	± 1.0	P
900	-5	-5.17	0.17	0.24	± 1.0	P
1800	-5	-5.23	0.23	0.24	± 1.0	P
2100	-5	-5.29	0.29	0.24	± 1.0	P
2300	-5	-5.20	0.20	0.24	± 1.0	P
2600	-5	-5.33	0.33	0.24	± 1.0	P
3298	-5	-5.44	0.44	0.24	± 1.0	P
3800	-15	-15.16	0.16	0.24	± 2.0	P
4900	-15	-15.30	0.30	0.24	± 2.0	P
5500	-15	-15.38	0.38	0.24	± 2.0	P
6000	-15	-15.41	0.41	0.24	± 2.0	P

校 准 结 果
RESULTS OF CALIBRATION

3.2.5、端口(Port): RF4 COM

频率 Frequency (MHz)	标称值 Nominal (dBm)	实测值 Measured (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	-5	-5.19	0.19	0.24	± 1.0	P
2000	-10	-10.16	0.16	0.24	± 1.0	P
2000	-20	-20.11	0.11	0.24	± 1.0	P
2000	-30	-30.09	0.09	0.24	± 1.0	P
2000	-40	-40.09	0.09	0.24	± 1.0	P
2000	-50	-50.06	0.06	0.24	± 1.0	P
2000	-60	-60.08	0.08	0.24	± 1.0	P
2000	-70	-70.11	0.11	0.24	± 1.0	P
2000	-80	-80.14	0.14	0.24	± 1.0	P
2000	-90	-90.23	0.23	0.39	± 1.0	P
2000	-100	-100.22	0.22	0.39	± 1.0	P
2000	-110	-110.18	0.18	0.39	± 1.0	P
5000	-15	-15.30	0.30	0.24	± 2.0	P
5000	-20	-20.29	0.29	0.24	± 2.0	P
5000	-30	-30.31	0.31	0.24	± 2.0	P
5000	-40	-40.28	0.28	0.24	± 2.0	P
5000	-50	-50.31	0.31	0.24	± 2.0	P
5000	-60	-60.28	0.28	0.24	± 2.0	P
5000	-70	-70.35	0.35	0.24	± 2.0	P
5000	-80	-80.33	0.33	0.24	± 2.0	P
5000	-90	-90.40	0.40	0.47	± 2.0	P
5000	-100	-100.39	0.39	0.47	± 2.0	P
5000	-110	-110.36	0.36	0.47	± 2.0	P
70	-15	-15.12	0.12	0.24	± 2.0	P
100	-15	-15.10	0.10	0.24	± 2.0	P
500	-5	-5.15	0.15	0.24	± 1.0	P
900	-5	-5.14	0.14	0.24	± 1.0	P
1800	-5	-5.29	0.29	0.24	± 1.0	P
2100	-5	-5.25	0.25	0.24	± 1.0	P
2300	-5	-5.23	0.23	0.24	± 1.0	P
2600	-5	-5.33	0.33	0.24	± 1.0	P
3298	-5	-5.48	0.48	0.24	± 1.0	P
3800	-15	-15.31	0.31	0.24	± 2.0	P
4900	-15	-15.38	0.38	0.24	± 2.0	P
5500	-15	-15.40	0.40	0.24	± 2.0	P
6000	-15	-15.37	0.37	0.24	± 2.0	P

校 准 结 果
RESULTS OF CALIBRATION

3.2.6、端口(Port): RF3 OUT

频率 Frequency (MHz)	标称值 Nominal (dBm)	实测值 Measured (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	3	2.78	0.22	0.24	± 1.0	P
2000	0	-0.21	0.21	0.24	± 1.0	P
2000	-10	-10.20	0.20	0.24	± 1.0	P
2000	-20	-20.38	0.38	0.24	± 1.0	P
2000	-30	-30.37	0.37	0.24	± 1.0	P
2000	-40	-40.34	0.34	0.24	± 1.0	P
2000	-50	-50.34	0.34	0.24	± 1.0	P
2000	-60	-60.33	0.33	0.24	± 1.0	P
2000	-70	-70.35	0.35	0.24	± 1.0	P
2000	-80	-80.45	0.45	0.24	± 1.0	P
2000	-90	-90.47	0.47	0.39	± 1.0	P
2000	-100	-100.39	0.39	0.39	± 1.0	P
2000	-110	-110.37	0.37	0.39	± 1.0	P
5000	-7	-7.24	0.24	0.24	± 2.0	P
5000	-10	-10.26	0.26	0.24	± 2.0	P
5000	-20	-20.46	0.46	0.24	± 2.0	P
5000	-30	-30.45	0.45	0.24	± 2.0	P
5000	-40	-40.43	0.43	0.24	± 2.0	P
5000	-50	-50.39	0.39	0.24	± 2.0	P
5000	-60	-60.39	0.39	0.24	± 2.0	P
5000	-70	-70.49	0.49	0.24	± 2.0	P
5000	-80	-80.45	0.45	0.24	± 2.0	P
5000	-90	-90.53	0.53	0.47	± 2.0	P
5000	-100	-100.59	0.59	0.47	± 2.0	P
5000	-110	-110.54	0.54	0.47	± 2.0	P
70	-7	-7.05	0.05	0.24	± 2.0	P
100	-7	-7.12	0.12	0.24	± 2.0	P
500	0	-0.11	0.11	0.24	± 1.0	P
900	0	-0.16	0.16	0.24	± 1.0	P
1800	0	-0.24	0.24	0.24	± 1.0	P
2100	0	-0.28	0.28	0.24	± 1.0	P
2300	0	-0.19	0.19	0.24	± 1.0	P
2600	0	-0.26	0.26	0.24	± 1.0	P
3298	0	-0.48	0.48	0.24	± 1.0	P
3800	-7	-7.18	0.18	0.24	± 2.0	P
4900	-7	-7.32	0.32	0.24	± 2.0	P
5500	-7	-7.39	0.39	0.24	± 2.0	P
6000	-7	-7.39	0.39	0.24	± 2.0	P

校 准 结 果
RESULTS OF CALIBRATION

3.3、谐波频谱纯度(Port:RF1 COM)

Harmonics Spectral Purity

频率 Frequency (MHz)	谐波次数 Harmonics (/)	实测值 Measured (dBc)	不确定度 U (k=2) (dB)	允许值 Limit (dBc)	结 论 Conclusion (Pass/Fail)
70	2nd	-55.5	1.0	< -30.0	P
70	3rd	-60.7	1.0	< -40.0	P
450	2nd	-57.2	1.0	< -30.0	P
450	3rd	-66.9	1.0	< -40.0	P
950	2nd	-54.6	1.0	< -30.0	P
950	3rd	-63.5	1.0	< -40.0	P
1850	2nd	-46.3	1.0	< -30.0	P
1850	3rd	-72.9	1.0	< -40.0	P
2100	2nd	-58.0	1.0	< -30.0	P
2100	3rd	-72.0	1.0	< -40.0	P
3298	2nd	-45.1	1.0	< -30.0	P
3298	3rd	-85.5	1.0	< -40.0	P
3400	2nd	-47.0	1.0	< -30.0	P
3400	3rd	-88.1	1.0	< -40.0	P
3800	2nd	-47.2	1.0	< -30.0	P
3800	3rd	-92.3	1.0	< -40.0	P
4900	2nd	-54.7	1.0	< -30.0	P
4900	3rd	-100.4	1.0	< -40.0	P
5500	2nd	-60.1	1.0	< -30.0	P
5500	3rd	-93.3	1.0	< -40.0	P
6000	2nd	-67.4	1.0	< -30.0	P
6000	3rd	-97.4	1.0	< -40.0	P

校 准 结 果
RESULTS OF CALIBRATION

3.4、非谐波频谱纯度(Port: RF1 COM)
Non-Harmonics Spectral Purity

频率 Frequency (MHz)	查找频率 Search Freq. (MHz)	实测值 Measured (dBc)	不确定度 U (k=2) (dB)	允许值 Limit (dBc)	结 论 Conclusion (Pass/Fail)
400	4300	-114.9	1.2	< -60.0	P
1100	4000	-114.1	1.2	< -60.0	P
1800	1700	-113.0	1.2	< -60.0	P
1800	1600	-99.3	1.2	< -60.0	P
1810	5710	-113.8	1.2	< -60.0	P
3301	3099	-36.5	1.2	< -25.0	P
3400	3000	-43.0	1.2	< -25.0	P
3410	5980	-63.6	1.2	< -25.0	P
3500	2900	-51.7	1.2	< -25.0	P
3600	2800	-66.8	1.2	< -40.0	P
3600	3900	-98.5	1.2	< -40.0	P
3601	5598	-60.1	1.2	< -40.0	P
3810	5180	-57.3	1.2	< -40.0	P
5610	4030	-57.3	1.2	< -40.0	P

3.5、相位噪声(Port: RF1 COM)
Phase Noise-SSB

频率 Frequency (MHz)	载波偏置 Carrier offset (kHz)	实测值 Measured (dBc/Hz)	不确定度 U (k=2) (dB)	允许值 Limit (dBc/Hz)	结 论 Conclusion (Pass/Fail)
70	1000	-129.2	1.2	< -120.0	P
450	1000	-131.1	1.2	< -120.0	P
950	1000	-132.1	1.2	< -120.0	P
1850	1000	-127.0	1.2	< -120.0	P
2100	1000	-128.1	1.2	< -120.0	P
3298	1000	-127.7	1.2	< -120.0	P
3400	1000	-122.0	1.2	< -117.0	P
3800	1000	-126.7	1.2	< -117.0	P
4900	1000	-128.6	1.2	< -117.0	P
5500	1000	-128.7	1.2	< -117.0	P
6000	1000	-128.7	1.2	< -117.0	P

校 准 结 果
RESULTS OF CALIBRATION

4、射频分析仪（RF Analyzer)

4.1、 射频功率测量

RF Power Measurement

4.1.1、 端口(Port): RF1 COM

频率 Frequency (MHz)	标准值 Reference (dBm)	示值 Indicated (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	16	15.95	-0.05	0.30	± 0.7	P
2000	10	9.98	-0.02	0.30	± 0.7	P
2000	0	-0.05	-0.05	0.30	± 0.7	P
2000	-10	-10.10	-0.10	0.30	± 0.7	P
2000	-20	-20.11	-0.11	0.30	± 0.7	P
2000	-30	-30.09	-0.09	0.30	± 0.7	P
2000	-40	-40.12	-0.12	0.30	± 0.7	P
2000	-50	-50.10	-0.10	0.30	± 0.7	P
2000	-60	-60.10	-0.10	0.30	± 0.7	P
2000	-70	-70.03	-0.03	0.30	± 0.7	P
2000	-80	-79.93	0.07	0.30	± 0.7	P
5000	16	15.75	-0.25	0.30	± 1.2	P
5000	10	9.73	-0.27	0.30	± 1.2	P
5000	0	-0.29	-0.29	0.30	± 1.2	P
5000	-10	-10.31	-0.31	0.30	± 1.2	P
5000	-20	-20.22	-0.22	0.30	± 1.2	P
5000	-30	-30.26	-0.26	0.30	± 1.2	P
5000	-40	-40.29	-0.29	0.30	± 1.2	P
5000	-50	-50.29	-0.29	0.30	± 1.2	P
5000	-60	-60.29	-0.29	0.30	± 1.2	P
5000	-70	-70.23	-0.23	0.30	± 1.2	P
150	0	-0.02	-0.02	0.30	± 0.7	P
500	0	-0.06	-0.06	0.30	± 0.7	P
900	0	-0.01	-0.01	0.30	± 0.7	P
1800	0	-0.04	-0.04	0.30	± 0.7	P
2100	0	-0.06	-0.06	0.30	± 0.7	P
2300	0	-0.14	-0.14	0.30	± 0.7	P
2600	0	-0.05	-0.05	0.30	± 0.7	P
3298	0	-0.12	-0.12	0.30	± 0.7	P
3800	0	-0.09	-0.09	0.30	± 1.2	P
4900	0	-0.24	-0.24	0.30	± 1.2	P
5500	0	-0.23	-0.23	0.30	± 1.2	P
6000	0	-0.04	-0.04	0.30	± 1.2	P

校 准 结 果
RESULTS OF CALIBRATION

4.1.2、 端口(Port): RF2 COM

频率 Frequency (MHz)	标准值 Reference (dBm)	示值 Indicated (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	16	15.98	-0.02	0.30	± 0.7	P
2000	10	10.01	0.01	0.30	± 0.7	P
2000	0	-0.03	-0.03	0.30	± 0.7	P
2000	-10	-10.09	-0.09	0.30	± 0.7	P
2000	-20	-20.07	-0.07	0.30	± 0.7	P
2000	-30	-30.04	-0.04	0.30	± 0.7	P
2000	-40	-40.08	-0.08	0.30	± 0.7	P
2000	-50	-50.11	-0.11	0.30	± 0.7	P
2000	-60	-60.06	-0.06	0.30	± 0.7	P
2000	-70	-70.23	-0.23	0.30	± 0.7	P
2000	-80	-79.96	0.04	0.30	± 0.7	P
5000	16	15.90	-0.10	0.30	± 1.2	P
5000	10	9.89	-0.11	0.30	± 1.2	P
5000	0	-0.10	-0.10	0.30	± 1.2	P
5000	-10	-10.14	-0.14	0.30	± 1.2	P
5000	-20	-20.01	-0.01	0.30	± 1.2	P
5000	-30	-30.04	-0.04	0.30	± 1.2	P
5000	-40	-40.07	-0.07	0.30	± 1.2	P
5000	-50	-50.07	-0.07	0.30	± 1.2	P
5000	-60	-60.12	-0.12	0.30	± 1.2	P
5000	-70	-70.01	-0.01	0.30	± 1.2	P
150	0	0.03	0.03	0.30	± 0.7	P
500	0	0.08	0.08	0.30	± 0.7	P
900	0	-0.01	-0.01	0.30	± 0.7	P
1800	0	-0.07	-0.07	0.30	± 0.7	P
2100	0	0.02	0.02	0.30	± 0.7	P
2300	0	0.00	0.00	0.30	± 0.7	P
2600	0	-0.16	-0.16	0.30	± 0.7	P
3298	0	-0.10	-0.10	0.30	± 0.7	P
3800	0	-0.31	-0.31	0.30	± 1.2	P
4900	0	-0.02	-0.02	0.30	± 1.2	P
5500	0	0.06	0.06	0.30	± 1.2	P
6000	0	0.16	0.16	0.30	± 1.2	P

校 准 结 果
RESULTS OF CALIBRATION

4.1.3、 端口(Port): RF3 COM

频率 Frequency (MHz)	标准值 Reference (dBm)	示值 Indicated (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	16	15.90	-0.10	0.30	± 0.7	P
2000	10	9.93	-0.07	0.30	± 0.7	P
2000	0	-0.09	-0.09	0.30	± 0.7	P
2000	-10	-10.15	-0.15	0.30	± 0.7	P
2000	-20	-20.15	-0.15	0.30	± 0.7	P
2000	-30	-30.15	-0.15	0.30	± 0.7	P
2000	-40	-40.18	-0.18	0.30	± 0.7	P
2000	-50	-50.17	-0.17	0.30	± 0.7	P
2000	-60	-60.15	-0.15	0.30	± 0.7	P
2000	-70	-70.10	-0.10	0.30	± 0.7	P
2000	-80	-80.05	-0.05	0.30	± 0.7	P
5000	16	15.88	-0.12	0.30	± 1.2	P
5000	10	9.88	-0.12	0.30	± 1.2	P
5000	0	-0.16	-0.16	0.30	± 1.2	P
5000	-10	-10.14	-0.14	0.30	± 1.2	P
5000	-20	-20.07	-0.07	0.30	± 1.2	P
5000	-30	-30.11	-0.11	0.30	± 1.2	P
5000	-40	-40.13	-0.13	0.30	± 1.2	P
5000	-50	-50.14	-0.14	0.30	± 1.2	P
5000	-60	-60.12	-0.12	0.30	± 1.2	P
5000	-70	-70.07	-0.07	0.30	± 1.2	P
150	0	0.04	0.04	0.30	± 0.7	P
500	0	-0.13	-0.13	0.30	± 0.7	P
900	0	-0.06	-0.06	0.30	± 0.7	P
1800	0	-0.05	-0.05	0.30	± 0.7	P
2100	0	-0.11	-0.11	0.30	± 0.7	P
2300	0	-0.12	-0.12	0.30	± 0.7	P
2600	0	-0.07	-0.07	0.30	± 0.7	P
3298	0	-0.11	-0.11	0.30	± 0.7	P
3800	0	0.01	0.01	0.30	± 1.2	P
4900	0	-0.05	-0.05	0.30	± 1.2	P
5500	0	-0.17	-0.17	0.30	± 1.2	P
6000	0	-0.12	-0.12	0.30	± 1.2	P

校 准 结 果
RESULTS OF CALIBRATION

4.1.4、 端口(Port): RF4 COM

频率 Frequency (MHz)	标准值 Reference (dBm)	示值 Indicated (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
2000	16	15.91	-0.09	0.30	± 0.7	P
2000	10	9.94	-0.06	0.30	± 0.7	P
2000	0	-0.08	-0.08	0.30	± 0.7	P
2000	-10	-10.12	-0.12	0.30	± 0.7	P
2000	-20	-20.15	-0.15	0.30	± 0.7	P
2000	-30	-30.15	-0.15	0.30	± 0.7	P
2000	-40	-40.16	-0.16	0.30	± 0.7	P
2000	-50	-50.16	-0.16	0.30	± 0.7	P
2000	-60	-60.15	-0.15	0.30	± 0.7	P
2000	-70	-70.08	-0.08	0.30	± 0.7	P
2000	-80	-80.01	-0.01	0.30	± 0.7	P
5000	16	15.89	-0.11	0.30	± 1.2	P
5000	10	9.91	-0.09	0.30	± 1.2	P
5000	0	-0.08	-0.08	0.30	± 1.2	P
5000	-10	-10.13	-0.13	0.30	± 1.2	P
5000	-20	-20.01	-0.01	0.30	± 1.2	P
5000	-30	-30.05	-0.05	0.30	± 1.2	P
5000	-40	-40.06	-0.06	0.30	± 1.2	P
5000	-50	-50.07	-0.07	0.30	± 1.2	P
5000	-60	-60.11	-0.11	0.30	± 1.2	P
5000	-70	-69.99	0.01	0.30	± 1.2	P
150	0	-0.02	-0.02	0.30	± 0.7	P
500	0	0.02	0.02	0.30	± 0.7	P
900	0	-0.07	-0.07	0.30	± 0.7	P
1800	0	-0.15	-0.15	0.30	± 0.7	P
2100	0	-0.03	-0.03	0.30	± 0.7	P
2300	0	-0.04	-0.04	0.30	± 0.7	P
2600	0	-0.18	-0.18	0.30	± 0.7	P
3298	0	-0.14	-0.14	0.30	± 0.7	P
3800	0	-0.15	-0.15	0.30	± 1.2	P
4900	0	-0.04	-0.04	0.30	± 1.2	P
5500	0	-0.04	-0.04	0.30	± 1.2	P
6000	0	0.10	0.10	0.30	± 1.2	P

校 准 结 果
RESULTS OF CALIBRATION

5、GSM规格（GSM Specifications)

5.1、GSM信号源数字调制质量

GSM Generator Digital Modulation Quality

5.1.1、调制方式(Modulation):GSM-GMSK

频率 Frequency (MHz)	项目 Items (/)	实测值 Measured (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
935.2	峰值相位误差(Phase error PK)	1.10 °	0.30 °	< 4.0 °	P
	均方根相位误差(Phase error RMS)	0.31 °	0.30 °	< 1.0 °	P
	频率误差(Frequency error)	0.2Hz	2.0Hz	N/A	/
959.8	峰值相位误差(Phase error PK)	0.88 °	0.30 °	< 4.0 °	P
	均方根相位误差(Phase error RMS)	0.30 °	0.30 °	< 1.0 °	P
	频率误差(Frequency error)	0.2Hz	2.0Hz	N/A	/
1805.2	峰值相位误差(Phase error PK)	1.01 °	0.30 °	< 4.0 °	P
	均方根相位误差(Phase error RMS)	0.31 °	0.30 °	< 1.0 °	P
	频率误差(Frequency error)	0.2Hz	2.0Hz	N/A	/
1879.8	峰值相位误差(Phase error PK)	0.97 °	0.30 °	< 4.0 °	P
	均方根相位误差(Phase error RMS)	0.31 °	0.30 °	< 1.0 °	P
	频率误差(Frequency error)	-0.4Hz	2.0Hz	N/A	/

5.1.2、调制方式(Modulation):GSM-8PSK

频率 Frequency (MHz)	项目 Items (/)	实测值 Measured (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
935.2	均方值误差矢量幅度(EVM RMS)	0.43%	0.40%	< 2.0%	P
	I/Q原点偏移(I/Q origin offset)	-65.4dB	0.5dB	N/A	/
959.8	均方值误差矢量幅度(EVM RMS)	0.42%	0.40%	< 2.0%	P
	I/Q原点偏移(I/Q origin offset)	-68.6dB	0.5dB	N/A	/
1805.2	均方值误差矢量幅度(EVM RMS)	0.44%	0.40%	< 2.0%	P
	I/Q原点偏移(I/Q origin offset)	-74.5dB	0.5dB	N/A	/
1879.8	均方值误差矢量幅度(EVM RMS)	0.43%	0.40%	< 2.0%	P
	I/Q原点偏移(I/Q origin offset)	-70.5dB	0.5dB	N/A	/

校 准 结 果
RESULTS OF CALIBRATION

5.2、GSM分析仪数字解调质量

GSM Analyzer Digital Demodulation Quality

5.2.1、调制方式(Modulation):GSM-GMSK

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
890.2	峰值相位误差(Phase error PK)	0.80 °	0.30 °	< 2.0 °	P
	均方根相位误差(Phase error RMS)	0.26 °	0.30 °	< 0.6 °	P
	频率误差(Frequency error)	0.5Hz	4.0Hz	± 20Hz	P
914.8	峰值相位误差(Phase error PK)	0.80 °	0.30 °	< 2.0 °	P
	均方根相位误差(Phase error RMS)	0.25 °	0.30 °	< 0.6 °	P
	频率误差(Frequency error)	-0.1Hz	4.0Hz	± 20Hz	P
1710.2	峰值相位误差(Phase error PK)	0.80 °	0.30 °	< 2.0 °	P
	均方根相位误差(Phase error RMS)	0.27 °	0.30 °	< 0.6 °	P
	频率误差(Frequency error)	0.6Hz	4.0Hz	± 20Hz	P
1784.8	峰值相位误差(Phase error PK)	0.82 °	0.30 °	< 2.0 °	P
	均方根相位误差(Phase error RMS)	0.26 °	0.30 °	< 0.6 °	P
	频率误差(Frequency error)	0.1Hz	4.0Hz	± 20Hz	P

5.2.2、调制方式(Modulation):GSM-8PSK

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
890.2	均方值误差矢量幅度(EVM RMS)	0.41%	0.40%	< 0.8%	P
	I/Q原点偏移(I/Q origin offset)	-66.4dB	0.5dB	< -50dB	P
914.8	均方值误差矢量幅度(EVM RMS)	0.42%	0.40%	< 0.8%	P
	I/Q原点偏移(I/Q origin offset)	-66.4dB	0.5dB	< -50dB	P
1710.2	均方值误差矢量幅度(EVM RMS)	0.47%	0.40%	< 0.8%	P
	I/Q原点偏移(I/Q origin offset)	-62.9dB	0.5dB	< -50dB	P
1784.8	均方值误差矢量幅度(EVM RMS)	0.47%	0.40%	< 0.8%	P
	I/Q原点偏移(I/Q origin offset)	-63.4dB	0.5dB	< -50dB	P

校 准 结 果
RESULTS OF CALIBRATION

6、WCDMA规格（WCDMA Specifications)

6.1、WCDMA信号发生器数字调制质量

WCDMA Generator Digital Modulation Quality

频率 Frequency (MHz)	项目 Items (/)	实测值 Measured (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
826.4	均方根相位误差(Phase error RMS)	0.69 °	0.30 °	N/A	/
	频率误差(Frequency error)	-0.2Hz	2.0Hz	N/A	/
	均方值误差矢量幅度(EVM RMS)	0.69%	0.40%	< 2.0%	P
	I/Q原点偏移(I/Q origin offset)	-75.3dB	0.5dB	N/A	/
	波形质量(RHO)	1.0000	0.0012	N/A	/
912.6	均方根相位误差(Phase error RMS)	0.71 °	0.30 °	N/A	/
	频率误差(Frequency error)	-0.1Hz	2.0Hz	N/A	/
	均方值误差矢量幅度(EVM RMS)	0.69%	0.40%	< 2.0%	P
	I/Q原点偏移(I/Q origin offset)	-77.2dB	0.5dB	N/A	/
	波形质量(RHO)	1.0000	0.0012	N/A	/
1712.4	均方根相位误差(Phase error RMS)	0.71 °	0.30 °	N/A	/
	频率误差(Frequency error)	0.0Hz	2.0Hz	N/A	/
	均方值误差矢量幅度(EVM RMS)	0.69%	0.40%	< 2.0%	P
	I/Q原点偏移(I/Q origin offset)	-76.5dB	0.5dB	N/A	/
	波形质量(RHO)	1.0000	0.0012	N/A	/
1977.6	均方根相位误差(Phase error RMS)	0.68 °	0.30 °	N/A	/
	频率误差(Frequency error)	0.0Hz	2.0Hz	N/A	/
	均方值误差矢量幅度(EVM RMS)	0.69%	0.40%	< 2.0%	P
	I/Q原点偏移(I/Q origin offset)	-76.2dB	0.5dB	N/A	/
	波形质量(RHO)	1.0000	0.0012	N/A	/

6.2、占用带宽

OBW

频率 Frequency (MHz)	实测值 Measured (MHz)	不确定度 U (k=2) (MHz)	允许值 Limit (MHz)	结 论 Conclusion (Pass/Fail)
826.4	4.168	0.015	< 5	P
912.6	4.157	0.015	< 5	P
1712.4	4.166	0.015	< 5	P
1977.6	4.167	0.015	< 5	P

校 准 结 果
RESULTS OF CALIBRATION

6.3、邻道功率比
ACPR

频率 Frequency (MHz)	偏置频率 Offset freq. (MHz)	实测值 Measured (dB)	不确定度 U (k=2) (dB)	允许值 Limit (dB)	结 论 Conclusion (Pass/Fail)
826.4	5	-54.8	0.5	≤ -45	P
	10	-55.2	0.5	≤ -50	P
912.6	5	-55.1	0.5	≤ -45	P
	10	-55.4	0.5	≤ -50	P
1712.4	5	-54.3	0.5	≤ -45	P
	10	-54.7	0.5	≤ -50	P
1977.6	5	-53.6	0.5	≤ -45	P
	10	-53.8	0.5	≤ -50	P

6.4、通道功率
Channel Power

频率 Frequency (MHz)	标称值 Nominal (dBm)	实测值 Measured (dBm)	误差 Error (dB)	不确定度 U (k=2) (dB)	允许误差 MPE (dB)	结 论 Conclusion (Pass/Fail)
826.4	-20	-20.25	0.25	0.30	± 1.0	P
	-40	-40.25	0.25	0.30	± 1.0	P
912.6	-20	-20.21	0.21	0.30	± 1.0	P
	-40	-40.24	0.24	0.30	± 1.0	P
1712.4	-20	-20.41	0.41	0.30	± 1.0	P
	-40	-40.36	0.36	0.30	± 1.0	P
1977.6	-20	-20.17	0.17	0.30	± 1.0	P
	-40	-40.21	0.21	0.30	± 1.0	P

6.5、峰值码域误差
Peak code domain error

频率 Frequency (MHz)	实测值 Measured (dB)	不确定度 U (k=2) (dB)	允许值 Limit (dB)	结 论 Conclusion (Pass/Fail)
826.4	61.5	0.5	≥ 33	P
912.6	61.5	0.5	≥ 33	P
1712.4	61.6	0.5	≥ 33	P
1977.6	61.5	0.5	≥ 33	P

校 准 结 果
RESULTS OF CALIBRATION

6.6、WCDMA分析仪数字解调质量

WCDMA Analyzer Digital Demodulation Quality

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
826.4	均方根相位误差(Phase error RMS)	0.30 °	0.30 °	N/A	/
	频率误差(Frequency error)	-0.3Hz	4.0Hz	± 20Hz	P
	均方值误差矢量幅度(EVM RMS)	0.62%	0.40%	< 2.5%	P
	I/Q原点偏移(I/Q origin offset)	-67.0dB	0.5dB	< -55dB	P
	均方值幅度误差(Mag. error RMS)	0.34%	0.58%	N/A	/
912.6	均方根相位误差(Phase error RMS)	0.36 °	0.30 °	N/A	/
	频率误差(Frequency error)	0.0Hz	4.0Hz	± 20Hz	P
	均方值误差矢量幅度(EVM RMS)	0.78%	0.40%	< 2.5%	P
	I/Q原点偏移(I/Q origin offset)	-78.0dB	0.5dB	< -55dB	P
	均方值幅度误差(Mag. error RMS)	0.45%	0.58%	N/A	/
1712.4	均方根相位误差(Phase error RMS)	0.31 °	0.30 °	N/A	/
	频率误差(Frequency error)	-0.3Hz	4.0Hz	± 20Hz	P
	均方值误差矢量幅度(EVM RMS)	0.60%	0.40%	< 2.5%	P
	I/Q原点偏移(I/Q origin offset)	-69.5dB	0.5dB	< -55dB	P
	均方值幅度误差(Mag. error RMS)	0.26%	0.58%	N/A	/
1977.6	均方根相位误差(Phase error RMS)	0.31 °	0.30 °	N/A	/
	频率误差(Frequency error)	0.1Hz	4.0Hz	± 20Hz	P
	均方值误差矢量幅度(EVM RMS)	0.60%	0.40%	< 2.5%	P
	I/Q原点偏移(I/Q origin offset)	-74.5dB	0.5dB	< -55dB	P
	均方值幅度误差(Mag. error RMS)	0.25%	0.58%	N/A	/

校 准 结 果
RESULTS OF CALIBRATION

7.1、LTE FDD分析仪数字解调质量

LTE FDD Analyzer Digital Demodulation Quality

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
1710	均方值误差矢量幅度(EVM RMS)	0.52%	0.40%	< 1.0%	P
	I/Q原点偏移(I/Q origin offset)	-72.5dB	0.5dB	< -50dB	P
	频率误差(Frequency error)	-0.5Hz	4.0Hz	± 20Hz	P
2025	均方值误差矢量幅度(EVM RMS)	0.54%	0.40%	< 1.0%	P
	I/Q原点偏移(I/Q origin offset)	-73.7dB	0.5dB	< -50dB	P
	频率误差(Frequency error)	0.0Hz	4.0Hz	± 20Hz	P
2305	均方值误差矢量幅度(EVM RMS)	0.57%	0.40%	< 1.0%	P
	I/Q原点偏移(I/Q origin offset)	-64.7dB	0.5dB	< -50dB	P
	频率误差(Frequency error)	-0.2Hz	4.0Hz	± 20Hz	P
2570	均方值误差矢量幅度(EVM RMS)	0.53%	0.40%	< 1.0%	P
	I/Q原点偏移(I/Q origin offset)	-71.1dB	0.5dB	< -50dB	P
	频率误差(Frequency error)	-0.7Hz	4.0Hz	± 20Hz	P

7.2、LTE TDD分析仪数字解调质量

LTE TDD Analyzer Digital Demodulation Quality

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
1850	均方值误差矢量幅度(EVM RMS)	0.53%	0.40%	< 1.0%	P
	I/Q原点偏移(I/Q origin offset)	-70.8dB	0.5dB	< -50dB	P
	频率误差(Frequency error)	0.0Hz	4.0Hz	± 20Hz	P
2010	均方值误差矢量幅度(EVM RMS)	0.54%	0.40%	< 1.0%	P
	I/Q原点偏移(I/Q origin offset)	-70.9dB	0.5dB	< -50dB	P
	频率误差(Frequency error)	0.3Hz	4.0Hz	± 20Hz	P
2300	均方值误差矢量幅度(EVM RMS)	0.59%	0.40%	< 1.0%	P
	I/Q原点偏移(I/Q origin offset)	-71.4dB	0.5dB	< -50dB	P
	频率误差(Frequency error)	0.6Hz	4.0Hz	± 20Hz	P
2690	均方值误差矢量幅度(EVM RMS)	0.61%	0.40%	< 1.0%	P
	I/Q原点偏移(I/Q origin offset)	-68.9dB	0.5dB	< -50dB	P
	频率误差(Frequency error)	1.3Hz	4.0Hz	± 20Hz	P

校 准 结 果
RESULTS OF CALIBRATION

8、WLAN 规格（WLAN Specifications)

8.1、WLAN分析仪数字解调质量

WLAN Analyzer Digital Demodulation Quality

8.1.1、调制方式(Modulation):IEEE 802.11b CCK

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
2412	均方值误差矢量幅度(EVM RMS)	1.8%	1.2%	< 2.0%	P
	峰值误差矢量幅度(EVM PK)	3.2%	1.2%	< 5.0%	P
	频率误差(Frequency error)	0.1Hz	9.4Hz	± 20Hz	P
	符号时钟误差(Symbol clock error)	0.00ppm	0.12ppm	< 1ppm	P
2484	均方值误差矢量幅度(EVM RMS)	1.8%	1.2%	< 2.0%	P
	峰值误差矢量幅度(EVM PK)	3.1%	1.2%	< 5.0%	P
	频率误差(Frequency error)	-0.7Hz	9.4Hz	± 20Hz	P
	符号时钟误差(Symbol clock error)	0.01ppm	0.12ppm	< 1ppm	P

8.1.2、调制方式(Modulation):IEEE 802.11g OFDM 64QAM

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
2412	均方值误差矢量幅度(EVM RMS)	-50.38dB	1.2%	< -40.0dB	P
	导频误差矢量幅度(Pilot EVM)	-50.33dB	1.2%	N/A	/
	频率误差(Frequency error)	1.3Hz	9.4Hz	± 20Hz	P
	符号时钟误差(Symbol clock error)	0.00ppm	0.12ppm	< 1ppm	P
2472	均方值误差矢量幅度(EVM RMS)	-50.49dB	1.2%	< -40.0dB	P
	导频误差矢量幅度(Pilot EVM)	-50.34dB	1.2%	N/A	/
	频率误差(Frequency error)	-0.6Hz	9.4Hz	± 20Hz	P
	符号时钟误差(Symbol clock error)	-0.01ppm	0.12ppm	< 1ppm	P

8.1.3、调制方式(Modulation):IEEE 802.11a OFDM 64QAM

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
5180	均方值误差矢量幅度(EVM RMS)	-48.73dB	1.2%	< -40.0dB	P
	导频误差矢量幅度(Pilot EVM)	-48.93dB	1.2%	N/A	/
	频率误差(Frequency error)	-1.7Hz	9.4Hz	± 35Hz	P
	符号时钟误差(Symbol clock error)	0.05ppm	0.12ppm	< 1ppm	P
5825	均方值误差矢量幅度(EVM RMS)	-48.59dB	1.2%	< -40.0dB	P
	导频误差矢量幅度(Pilot EVM)	-48.97dB	1.2%	N/A	/
	频率误差(Frequency error)	1.5Hz	9.4Hz	± 35Hz	P
	符号时钟误差(Symbol clock error)	0.03ppm	0.12ppm	< 1ppm	P

校 准 结 果
RESULTS OF CALIBRATION

8.1.4、调制方式(Modulation):IEEE 802.11n

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
2412	均方值误差矢量幅度(EVM RMS)	-49.45dB	1.2%	< -40.0dB	P
	导频误差矢量幅度(Pilot EVM)	-50.61dB	1.2%	N/A	/
	数据误差矢量幅度(Data EVM)	-49.37dB	1.2%	N/A	/
	频率误差(Frequency error)	-4.4Hz	9.4Hz	± 20Hz	P
	符号时钟误差(Symbol clock error)	0.01ppm	0.12ppm	< 1ppm	P
2484	均方值误差矢量幅度(EVM RMS)	-49.55dB	1.2%	< -40.0dB	P
	导频误差矢量幅度(Pilot EVM)	-50.83dB	1.2%	N/A	/
	数据误差矢量幅度(Data EVM)	-49.47dB	1.2%	N/A	/
	频率误差(Frequency error)	0.5Hz	9.4Hz	± 20Hz	P
	符号时钟误差(Symbol clock error)	0.01ppm	0.12ppm	< 1ppm	P
5180	均方值误差矢量幅度(EVM RMS)	-47.22dB	1.2%	< -40.0dB	P
	导频误差矢量幅度(Pilot EVM)	-48.30dB	1.2%	N/A	/
	数据误差矢量幅度(Data EVM)	-47.15dB	1.2%	N/A	/
	频率误差(Frequency error)	-2.2Hz	9.4Hz	± 35Hz	P
	符号时钟误差(Symbol clock error)	-0.10ppm	0.12ppm	< 1ppm	P
5825	均方值误差矢量幅度(EVM RMS)	-47.57dB	1.2%	< -40.0dB	P
	导频误差矢量幅度(Pilot EVM)	-48.78dB	1.2%	N/A	/
	数据误差矢量幅度(Data EVM)	-47.49dB	1.2%	N/A	/
	频率误差(Frequency error)	1.3Hz	9.4Hz	± 35Hz	P
	符号时钟误差(Symbol clock error)	-0.10ppm	0.12ppm	< 1ppm	P

8.1.5、调制方式(Modulation):IEEE 802.11ac

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
5180	均方值误差矢量幅度(EVM RMS)	-47.08dB	1.2%	< -38.0dB	P
	导频误差矢量幅度(Pilot EVM)	-48.67dB	1.2%	N/A	/
	数据误差矢量幅度(Data EVM)	-46.97dB	1.2%	N/A	/
	频率误差(Frequency error)	6.5Hz	9.4Hz	± 35Hz	P
	符号时钟误差(Symbol clock error)	0.02ppm	0.12ppm	< 1ppm	P
5825	均方值误差矢量幅度(EVM RMS)	-47.77dB	1.2%	< -38.0dB	P
	导频误差矢量幅度(Pilot EVM)	-48.84dB	1.2%	N/A	/
	数据误差矢量幅度(Data EVM)	-47.69dB	1.2%	N/A	/
	频率误差(Frequency error)	1.3Hz	9.4Hz	± 35Hz	P
	符号时钟误差(Symbol clock error)	0.05ppm	0.12ppm	< 1ppm	P

校 准 结 果
RESULTS OF CALIBRATION

9、BLUETOOTH 规格（BLUETOOTH Specifications)

9.1、BLUETOOTH信号发生器增强数据速率数字调制质量

BLUETOOTH Generator EDR Digital Modulation Quality

频率 Frequency (MHz)	项目 Items (/)	实测值 Measured (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
2402	均方值差分误差矢量幅度(DEVM RMS)	0.33%	0.60%	< 1.5%	P
	峰值差分误差矢量幅度(DEVM PK)	0.86%	0.60%	N/A	/
	频率误差ωi(Frequency error)	-0.01kHz	0.02kHz	N/A	/
	频率误差ωo(Frequency error)	0.00kHz	0.02kHz	N/A	/
2440	均方值差分误差矢量幅度(DEVM RMS)	0.31%	0.60%	< 1.5%	P
	峰值差分误差矢量幅度(DEVM PK)	0.82%	0.60%	N/A	/
	频率误差ωi(Frequency error)	0.01kHz	0.02kHz	N/A	/
	频率误差ωo(Frequency error)	0.01kHz	0.02kHz	N/A	/
2480	均方值差分误差矢量幅度(DEVM RMS)	0.32%	0.60%	< 1.5%	P
	峰值差分误差矢量幅度(DEVM PK)	0.92%	0.60%	N/A	/
	频率误差ωi(Frequency error)	0.09kHz	0.02kHz	N/A	/
	频率误差ωo(Frequency error)	-0.16kHz	0.02kHz	N/A	/

9.2、GFSK调制频偏

GFSK Modulation Deviation

频率 Frequency (MHz)	标称值 Nominal (kHz)	实测值 Measured (kHz)	误差 Error (kHz)	不确定度 U_{rel} (k=2) (/)	允许误差 MPE (kHz)	结 论 Conclusion (Pass/Fail)
2402	160	159.7	0.3	1.2%	N/A	/
2440	160	159.7	0.3	1.2%	N/A	/
2480	160	159.6	0.4	1.2%	N/A	/

9.3、GFSK频偏测量

GFSK Deviation Measurement

频率 Frequency (MHz)	标准值 Reference (kHz)	示值 Indicated (kHz)	误差 Error (kHz)	不确定度 U_{rel} (k=2) (/)	允许误差 MPE (kHz)	结 论 Conclusion (Pass/Fail)
2402	160	159.4	-0.6	1.2%	N/A	/
2440	160	159.4	-0.6	1.2%	N/A	/
2480	160	159.5	-0.5	1.2%	N/A	/

校 准 结 果
RESULTS OF CALIBRATION

9.4、BLUETOOTH分析仪增强数据速率数字解调质量
BLUETOOTH Analyzer EDR Digital Demodulation Quality

9.4.1、调制方式(Modulation):π/4-DQPSK PRBS

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
2402	均方值差分误差矢量幅度(DEVM RMS)	0.6%	1.2%	< 1.5%	P
	峰值差分误差矢量幅度(DEVM PK)	1.5%	1.2%	< 3.0%	P
	频率误差ωi(Frequency error)	0.10kHz	0.01kHz	± 2.0kHz	P
	频率误差ωo(Frequency error)	-0.13kHz	0.01kHz	± 1.0kHz	P
2440	均方值差分误差矢量幅度(DEVM RMS)	0.6%	1.2%	< 1.5%	P
	峰值差分误差矢量幅度(DEVM PK)	1.5%	1.2%	< 3.0%	P
	频率误差ωi(Frequency error)	0.10kHz	0.01kHz	± 2.0kHz	P
	频率误差ωo(Frequency error)	-0.12kHz	0.01kHz	± 1.0kHz	P
2480	均方值差分误差矢量幅度(DEVM RMS)	0.6%	1.2%	< 1.5%	P
	峰值差分误差矢量幅度(DEVM PK)	1.5%	1.2%	< 3.0%	P
	频率误差ωi(Frequency error)	0.11kHz	0.01kHz	± 2.0kHz	P
	频率误差ωo(Frequency error)	-0.13kHz	0.01kHz	± 1.0kHz	P

9.4.2、调制方式(Modulation):8DPSK PRBS

频率 Frequency (MHz)	项目 Items (/)	示值 Indicated (/)	不确定度 U (k=2) (/)	允许值 Limit (/)	结 论 Conclusion (Pass/Fail)
2402	均方值差分误差矢量幅度(DEVM RMS)	0.6%	1.2%	< 1.5%	P
	峰值差分误差矢量幅度(DEVM PK)	1.5%	1.2%	< 3.0%	P
	频率误差ωi(Frequency error)	-0.05kHz	0.01kHz	± 2.0kHz	P
	频率误差ωo(Frequency error)	0.09kHz	0.01kHz	± 1.0kHz	P
2440	均方值差分误差矢量幅度(DEVM RMS)	0.6%	1.2%	< 1.5%	P
	峰值差分误差矢量幅度(DEVM PK)	1.4%	1.2%	< 3.0%	P
	频率误差ωi(Frequency error)	-0.19kHz	0.01kHz	± 2.0kHz	P
	频率误差ωo(Frequency error)	0.23kHz	0.01kHz	± 1.0kHz	P
2480	均方值差分误差矢量幅度(DEVM RMS)	0.6%	1.2%	< 1.5%	P
	峰值差分误差矢量幅度(DEVM PK)	1.4%	1.2%	< 3.0%	P
	频率误差ωi(Frequency error)	-0.27kHz	0.01kHz	± 2.0kHz	P
	频率误差ωo(Frequency error)	0.33kHz	0.01kHz	± 1.0kHz	P

校 准 结 果
RESULTS OF CALIBRATION

备注：
Notes：

结论(Conclusion)： 所校项目符合技术要求

1.本证书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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