



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: 1JA23006218-0007

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

宽带无线通信综测仪

型号规格:

Model/Type

CMX500

制造商:

Manufacturer

R&S

机身号:

Serial No.

101873

管理号:

Asset No.

SZ-SAR2023083

接收日期:

Rec. Date

2023-10-08

校准日期:

Cal. Date

2023-10-08

签发日期:

App. Date

2023-10-09

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

吴飞

吴飞

核验:

Inspected by

顾林

顾林

签发:

Approved by

刘君荣

刘君荣

印章:

Stamp



扫一扫查真伪

赛宝计量检测中心

总部地址: 广州市增城区朱村街朱村大道西78号

实验室地址: 广州市增城区朱村街朱村大道西78号

客服电话: 020-87237633 传真: 020-87236189

投诉电话: 020-87236896

邮件: cal@ceprei.com

网址: www.ceprei-cal.com

CEPREI Calibration and Testing Centre

HQ Addr: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China

Add. of the Lab: No.78,Zhucun Avenue West,Zengcheng District,Guangzhou,China

Service Tel: 020-87237633 Fax: 020-87236189

Complaint Tel: 020-87236896

Email: cal@ceprei.com

Website: www.ceprei-cal.com

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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):

▪ JJF(通信)052-2021 5G 移动通信综合测试仪校准规范: Oscillator:10MHz; RF Signal Generator: Frequency Accuracy:450MHz~53GHz;Output Level:(30~-127)dBm(450MHz~26.5GHz),(20~-127)dBm(>26.5GHz~53GHz);Single Sideband Phase Noise:0dBc~-140dBc,offset:10Hz~100MHz;Spectrum Purity:0dBc~-120dBc(450MHz~53GHz);Occupies Bandwidth:(0~200)MHz;Adjacent Channel Power Ratio:(0~-90)dBc;EVM:(0~10)%; Analysis: RF Power:(30~-127)dBm(450MHz~26.5GHz),(20~-127)dBm(>26.5GHz~53GHz);Occupies Bandwidth:(0~200) MHz;Adjacent Channel Power Ratio:(0~-90)dBc;EVM:(0~10)%;VSWR:1.0~5(450MHz~53GHz)

* 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)
矢量信号源(MY5730023 4)	XDxh2023-00936/2024-04-27/中国计量院	f: $\pm 1 \times 10^{-7}$; Amp: $\pm 0.24\text{dB}$; AM: $\pm 1.5\%$; FM: $\pm 2\%$; PM: $\pm 0.5\%$	f: 9kHz~6GHz; Amp : -110dBm~18dBm; AM: 1%~100%; FM : (0~16) MHz; PM : (0~8) rad

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2楼实验室

6. 环境条件(Environmental conditions):

温度(Temperature): 23.2 相对湿度(Relative Humidity): 56%

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 $\leq$ the measured value $\leq$ 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 Manufacturer, 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)

无影响证书中校准结果准确度的因素和缺陷。

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

2 5G NR调制解调(Tx Modulation Demodulation:5G NR)(RF1COM)

2.1 误差矢量幅度(Error Vector Magnitude)

载波频率 (C-Freq.) (MHz)		指示值 (Indicated) (%)	允许误差 (Limit) (%)	结论 (Pass/Fail)	U (k=2) (%)
2600	RMS	0.85	<1.00	P	0.58
2600	Peak	3.14			0.58
3500	RMS	0.89	<1.00	P	0.58
3500	Peak	3.36			0.58
4900	RMS	0.89	<1.00	P	0.58
4900	Peak	3.43			0.58

2.2 误差矢量幅度DMRS(Error Vector Magnitude DMRS)

载波频率 (C-Freq.) (MHz)		指示值 (Indicated) (%)	允许误差 (Limit) (%)	结论 (Pass/Fail)	U (k=2) (%)
2600		0.92	<1.00	P	0.58
3500		0.91	<1.00	P	0.58
4900		0.93	<1.00	P	0.58

2.3 IQ偏移(IQ Offset)

载波频率 (C-Freq.) (MHz)		指示值 (Indicated) (dBc)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
2600		-64.6	<-50.0	P	1.0
3500		-63.1	<-50.0	P	1.0
4900		-61.7	<-50.0	P	1.0

2.4 频率误差(Frequency Error)

载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (Hz)	允许误差 (Limit) (Hz)	结论 (Pass/Fail)	U ($k=2$) (Hz)
2600	-6.5	± 20.0	P	8.0
3500	-7.2	± 35.0	P	8.0
4900	-8.1	± 35.0	P	8.0

注：配合CMW500(SN:169210)共同校准。

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CHINA CEPREI LABORATORY CALIBRATION & TESTING CENTRE

校准证书

CALIBRATION CERTIFICATE

证书编号: 1JA24003699-0004

Certificate No.



中国认可
国际互认
校准
CALIBRATION
CNAS L13344

委托单位: 华瑞赛维(宿州)科技有限公司/Huarui 7layers High Technology (Suzhou) Co., Ltd
Client

委托方地址: 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
Address Road, High-tech District, Suzhou City, Anhui Province, P.R.CHINA

仪器名称: 宽带无线通信综测仪
Description

型号规格: CMW500
Model/Type

制造商: R&S
Manufacturer

机身号: 169210
Serial No.

管理号: SZ-SAR2202012
Asset No.

接收日期: 2024-06-19 校准日期: 2024-06-19
Rec. Date Cal. Date

签发日期: 2024-06-20
App. Date

结论: 所校准项目符合技术要求(The calibrated items meet the technical requirements)
Conclusion

校准: 沈天昊
Calibrated by

核验: 刘建龙
Inspected by

签发: 王晴强
Approved by

印章:
Stamp

刘建龙



扫一扫查真伪

赛宝计量检测中心
总部地址: 广州市增城区朱村街朱村大道西78号
实验室地址: 江苏省苏州市高新区泰山路601号
客服电话: 0512-68076661 传真: 0512-68076669
投诉电话: 0512-68026260/66719750、020-87236896
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Email: service-hd@ceprei.com
Website: www.ceprei-cal.com

说 明

DIRECTIONS

1. 本机构是国家市场监管总局授权建立的法定计量检定机构：“国家环境综合试验设备计量站”，国家国防科工局授权建立的“国防科技工业4412二级计量站”，本机构质量管理体系符合ISO/IEC 17025:2017标准的要求。

This laboratory is the legal metrological institute authorized by the State Administration for Market Regulation. It is the “Nation Metrology Station of Combined Environmental Testing Equipment”. It is the “No. 4412 Class 2 Metrology Station of Science, Technology and Industry for National Defense” authorized by the State Administration of Science, Technology and Industry for National Defense. The quality management system of this laboratory is in accordance with the ISO/IEC 17025:2017.

2. 本证书中的数据可溯源到国际单位制（SI）单位和/或社会公用计量标准。

The data of the certificate is traceable to the International system of Units (SI) and/or the public metrological standards.

3. 本次校准的技术依据及CNAS认可范围(Reference documents and CNAS accredited scopes):

- JJF 1131-2005 TDMA-GSM数字移动通信综合测试仪校准规范: Signal Generator:Oscillator:(5,10)MHz; Frequency:0.15MHz~6GHz;Level:(30~-127)dBm;AM:(1~99)%;FM:(1~400)kHz;ΦM:(1~40)rad;Mod. Distortion:(0.001~30)%;Pulse Make-Break Ratio:(0.01~120)dB;SSB Phase Noise:-130dBc/Hz~-70dBc/Hz,frequency Offset:10Hz~100kHz;Internal Mod.Level:(1mV~10V);Internal Mod.Frequency:5Hz~1MHz;Signal Spectrum Purity:-130 dBc~-30dBc(150kHz~6GHz);Channel Power:(-70~30)dBm;ACPR:-90dBc~0.01dBc;Frequency Error:-1kHz~1 kHz;IQ Offset:-70dB~-10dB;EVM:0.01%~10%;Magnitude:0.01%~10%;Phase Error:0.01°~15°(0.15MHz~6 GHz);FSK Error:0.01%~10%;Waveform Quality Factor(rho):0.8~1.0 Signal Analyzer:Frequency Measurement:0.15 MHz~6GHz;Level Measurement:(30~-100)dBm;AM:(1~99)%;FM:(1~400)kHz;ΦM:(1~40)rad;Frequency Error:-1MHz~+1MHz; Channel Power:-70dBm~15dBm;ACPR:-90dBc~0dBc;IQ Offset:70dB~-10dB;EVM:0.01%~10%;Phase:0.01°~15°(0.15MHz~6GHz);Magnitude:0.01%~10%;Waveform Quality Factor(rho):0.9~1.0 Spectrum Analyzer:Frequency Measurement:0.15MHz~6GHz;Level Measurement:(30~-120)dBm;SPAN:100Hz~6 GHz;RBW:1Hz~30MHz;RBW Switching Uncertainty:0~5dB (1Hz~30MHz) ;Reference Level:-90dBm~+10 dBm;Display Scale Fidelity:-90dBm~+10dBm;Input Frequency Response:0.15MHz~6GHz Audio Signal Generator: Output Frequency:5Hz~500kHz;Output Level:1mV~10V;Signal Distortion:0.001%~30%;AC Level Measurement:1 mV~300V;DC Level Measurement:0.1V~300V Audio Analyzer:Frequency Measurement:5Hz~300kHz;Distortion Measurement:0.01%~30%;Filter Cutoff Frequency:5Hz~300kHz Oscilloscope:Frequency Bandwidth:1MHz~1GHz ;Rise Time:0.1ns~5ns;Voltage: 1mV~100V;Time: 1ns~10s
- JJF 1276-2011 宽带码分多址接入（WCDMA）数字移动通信综合测试仪校准规范: Signal Generator:Oscillator: (5,10)MHz;Frequency:0.15MHz~6GHz;Level:(30~-127)dBm;AM:(1~99)%;FM:(1~400)kHz;ΦM:(1~40)rad; Mod. Distortion:(0.001~30)%;Pulse Make-Break Ratio:(0.01~120)dB;SSB Phase Noise:-130dBc/Hz~-70dBc/Hz, frequency Offset:10Hz~100kHz;Internal Mod.Level:(1mV~10V);Internal Mod.Frequency:5Hz~1MHz;Signal Spectrum Purity:-130dBc~-30dBc(150kHz~6GHz);Channel Power:(-70~30)dBm;ACPR:-90dBc~0.01dBc; Frequency Error:-1kHz~1kHz;IQ Offset:-70dB~-10dB;EVM:0.01%~10%;Magnitude:0.01%~10%;Phase Error: 0.01°~15°(0.15MHz~6GHz);FSK Error:0.01%~10%;Waveform Quality Factor(rho):0.8~1.0 Signal Analyzer: Frequency Measurement:0.15MHz~6GHz;Level Measurement:(30~-100)dBm;AM:(1~99)%;FM:(1~400)kHz;ΦM : (1~40)rad;Frequency Error:-1MHz~+1MHz; Channel Power:-70dBm~15dBm;ACPR:-90dBc~0dBc;IQ Offset:70 dB~-10dB;EVM:0.01%~10%;Phase:0.01°~15°(0.15MHz~6GHz);Magnitude:0.01%~10%;Waveform Quality Factor(rho):0.9~1.0 Spectrum Analyzer:Frequency Measurement:0.15MHz~6GHz;Level Measurement:(30~-120) dBm;SPAN:100Hz~6GHz;RBW:1Hz~30MHz;RBW Switching Uncertainty:0~5dB (1Hz~30MHz) ;Reference Level:-90dBm~+10dBm;Display Scale Fidelity:-90dBm~+10dBm;Input Frequency Response:0.15MHz~6GHz Audio Signal Generator:Output Frequency:5Hz~500kHz;Output Level:1mV~10V;Signal Distortion:0.001%~30%; AC Level Measurement:1mV~300V;DC Level Measurement:0.1V~300V Audio Analyzer:Frequency Measurement:5 Hz~300kHz;Distortion Measurement:0.01%~30%;Filter Cutoff Frequency:5Hz~300kHz Oscilloscope:Frequency Bandwidth:1MHz~1GHz;Rise Time:0.1ns~5ns;Voltage: 1mV~100V;Time: 1ns~10s
- JJF 1443-2014 LTE数字移动通信综合测试仪校准规范: Ref OSC output frequency:10MHz;Output Frequency of Signal Generator:600MHz~3.8GHz;Output Power:600MHz~3.8GHz(-120~+30)dBm;OBW of Signal Generator:1.4 MHz~20MHz;ACP of Signal Generator:-100dB~-45dB;Spectral Purity of Signal Generator:-130dBc~-25dBc(600 MHz~3.8GHz);SSB Phase Noise of Signal Generator:-130dBc/Hz~-70dBc/Hz(fc:600MHz~3.8GHz;Offset:10Hz~100kHz);EVM of Signal Generator:0~8%,-70dB~-10dB;Frequency Error of Signal Generator:-80kHz~80kHz; Orignal Offset of Signal Generator:-70dB~-10dB;分析仪:Power Measurement:-50dBm~+30dBm(600MHz~3.8 GHz);EVM Measurement:0~10%,-70dB~-10dB;Frequency Error Measurement:-80kHz~80kHz;RF Port VSWR:1 ~2(600MHz~3.8GHz)

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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及溯源性声明(The main measurement standards used during the calibration and traceability declaration):

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)
通用计数器(MY58110102)	4JC23000559-0001/2024-12-21/赛宝(苏州)	$f: \pm 5 \times 10^{-8}$	$f: DC \sim 15GHz$
功率计(MY55136008)	4JC24000194-0001/2025-04-14/赛宝(苏州)	$P: \pm 0.5\%$	$f: 9kHz \sim 110GHz$ $P: (-70 \sim 44)dBm$
矢量信号分析仪(MY52350906)	XDxh2024-00584、 XDxh2024-00709/2025-03-28/中国计量院	GSM: Peak Phase Error: $U=1^\circ(k=2)$; RMS Phase Error: $U=0.3^\circ(k=2)$; f Error: $U=1Hz(k=2)$; CDMA2000:RMS EVM: $U=0.3\%(k=2)$, f Error: $U=1Hz(k=2)$; WCDMA:RMS EVM: $U=0.3\%(k=2)$, f Error: $U=1Hz(k=2)$; TD-SCDMA: RMS EVM: $U=0$	$f: 3Hz \sim 26.5GHz$; Amp: $-155dBm \sim 30dBm$; 数字调制
矢量信号发生器(MY50144181)	4JC24000265-0001/2025-05-03/赛宝(苏州)	$f: \pm 1 \times 10^{-6}$; $L: \pm 0.6dB$; $AM: \pm 4\%$; $FM: \pm 2\%$; $\phi M: \pm 0.5\%$	$f: 100kHz \sim 6GHz$; $L: (13 \sim -127)dBm$; $AM: (0 \sim 100)\%$; $FM: (0 \sim 40)MHz$; $\phi M: (0 \sim 20)rad$

计量溯源性声明(Metrological Traceability Declaration):

被校准器具 Instrument	设备名称 Standard Name	外部机构/溯源证书编号 Institute/Certificate No.
宽带无线通信综测仪	通用计数器	航天203所/GFJGJL1002210068572
	功率计	中国计量院 /XDgp2022-02772/XDgp2022-02779
	矢量信号分析仪	中国计量院/XDxh2024-00584、 XDxh2024-00709
	矢量信号发生器	中国计量院/XDgp2024-00918

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1楼实验室

6. 环境条件(Environmental conditions):

温度(Temperature): 23.4 相对湿度(Relative Humidity): 53% 其它(Other): /

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.

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.)

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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 射频发生器(RF Generator)

2.1 频率准确度(Frequency Accuracy)(RF1COM)

标称值 (Nominal) (MHz)	标准值 (Reference) (MHz)	误差 (Error) (Hz)	允许误差 (Limit) (Hz)	结论 (Pass/Fail)	U (k=2) (Hz)
70	69.9999960	4.0	± 7.0	P	0.6
400	399.999977	23.0	± 40.0	P	3.4
1000	999.999942	58	± 100	P	9
1400	1399.999919	81	± 140	P	12
2100	2099.999879	121	± 210	P	18
2500	2499.999856	144	± 250	P	22
3300	3299.999810	190	± 330	P	28
4000	3999.999770	230	± 400	P	34
5000	4999.999712	288	± 500	P	43
6000	5999.999654	346	± 600	P	52

2.2 信号源:输出电平(TX Level)(RF1COM)

频率 (Frequency) (MHz)	标称值 (Nominal) (dBm)	标准值 (Reference) (dBm)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
870	-5	-5.46	0.46	± 1.00	P	0.18
870	-10	-10.45	0.45	± 1.00	P	0.19
870	-20	-20.47	0.47	± 1.00	P	0.19
870	-30	-30.48	0.48	± 1.00	P	0.20
870	-40	-40.42	0.42	± 1.00	P	0.20
870	-50	-50.39	0.39	± 1.00	P	0.24
870	-60	-60.41	0.41	± 1.00	P	0.26
870	-70	-70.41	0.41	± 1.00	P	0.27
870	-80	-80.45	0.45	± 1.00	P	0.29
870	-90	-90.53	0.53	± 1.00	P	0.33

870	-100	-100.55	0.55	± 1.00	P	0.37
1805	-5	-5.50	0.50	± 1.00	P	0.30
1805	-10	-10.48	0.48	± 1.00	P	0.31
1805	-20	-20.45	0.45	± 1.00	P	0.31
1805	-30	-30.46	0.46	± 1.00	P	0.32
1805	-40	-40.50	0.50	± 1.00	P	0.32
1805	-50	-50.51	0.51	± 1.00	P	0.34
1805	-60	-60.52	0.52	± 1.00	P	0.35
1805	-70	-70.45	0.45	± 1.00	P	0.36
1805	-80	-80.54	0.54	± 1.00	P	0.37
1805	-90	-90.66	0.66	± 1.00	P	0.45
1805	-100	-100.65	0.65	± 1.00	P	0.48
2484	-5	-5.35	0.35	± 1.00	P	0.30
2484	-10	-10.33	0.33	± 1.00	P	0.31
2484	-20	-20.31	0.31	± 1.00	P	0.31
2484	-30	-30.31	0.31	± 1.00	P	0.32
2484	-40	-40.33	0.33	± 1.00	P	0.32
2484	-50	-50.32	0.32	± 1.00	P	0.34
2484	-60	-60.25	0.25	± 1.00	P	0.35
2484	-70	-70.32	0.32	± 1.00	P	0.36
2484	-80	-80.38	0.38	± 1.00	P	0.37
2484	-90	-90.46	0.46	± 1.00	P	0.45
2484	-100	-100.54	0.54	± 1.00	P	0.48
5825	-15	-16.35	1.35	± 2.00	P	0.31
5825	-20	-21.34	1.34	± 2.00	P	0.31
5825	-30	-31.39	1.39	± 2.00	P	0.32
5825	-40	-41.25	1.25	± 2.00	P	0.32
5825	-50	-51.21	1.21	± 2.00	P	0.33
5825	-60	-61.28	1.28	± 2.00	P	0.35
5825	-70	-71.31	1.31	± 2.00	P	0.36
5825	-80	-81.37	1.37	± 2.00	P	0.37
5825	-90	-91.38	1.38	± 2.00	P	0.38
5825	-100	-101.33	1.33	± 2.00	P	0.48
70	-15	-15.10	0.10	± 2.00	P	0.21
3300	-15	-15.87	0.87	± 2.00	P	0.31

3800	-15	-16.65	1.65	± 2.00	P	0.31
5180	-15	-16.48	1.48	± 2.00	P	0.31
6000	-15	-16.98	1.98	± 2.00	P	0.31

2.3 信号源:输出电平(TX Level)(RF2COM)

频率 (Frequency) (MHz)	标称值 (Nominal) (dBm)	标准值 (Reference) (dBm)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
870	-5	-5.51	0.51	± 1.00	P	0.18
870	-10	-10.50	0.50	± 1.00	P	0.19
870	-20	-20.52	0.52	± 1.00	P	0.19
870	-30	-30.51	0.51	± 1.00	P	0.20
870	-40	-40.46	0.46	± 1.00	P	0.20
870	-50	-50.46	0.46	± 1.00	P	0.24
870	-60	-60.44	0.44	± 1.00	P	0.26
870	-70	-70.42	0.42	± 1.00	P	0.27
870	-80	-80.48	0.48	± 1.00	P	0.29
870	-90	-90.58	0.58	± 1.00	P	0.33
870	-100	-100.47	0.47	± 1.00	P	0.37
1805	-5	-5.60	0.60	± 1.00	P	0.30
1805	-10	-10.57	0.57	± 1.00	P	0.31
1805	-20	-20.57	0.57	± 1.00	P	0.31
1805	-30	-30.58	0.58	± 1.00	P	0.32
1805	-40	-40.58	0.58	± 1.00	P	0.32
1805	-50	-50.60	0.60	± 1.00	P	0.34
1805	-60	-60.61	0.61	± 1.00	P	0.35
1805	-70	-70.56	0.56	± 1.00	P	0.36
1805	-80	-80.65	0.65	± 1.00	P	0.37
1805	-90	-90.73	0.73	± 1.00	P	0.45
1805	-100	-100.62	0.62	± 1.00	P	0.48
2484	-5	-5.40	0.40	± 1.00	P	0.30
2484	-10	-10.38	0.38	± 1.00	P	0.31
2484	-20	-20.37	0.37	± 1.00	P	0.31
2484	-30	-30.43	0.43	± 1.00	P	0.32
2484	-40	-40.43	0.43	± 1.00	P	0.32

2484	-50	-50.38	0.38	± 1.00	P	0.34
2484	-60	-60.39	0.39	± 1.00	P	0.35
2484	-70	-70.39	0.39	± 1.00	P	0.36
2484	-80	-80.47	0.47	± 1.00	P	0.37
2484	-90	-90.57	0.57	± 1.00	P	0.45
2484	-100	-100.49	0.49	± 1.00	P	0.48
5825	-15	-16.37	1.37	± 2.00	P	0.31
5825	-20	-21.40	1.40	± 2.00	P	0.31
5825	-30	-31.44	1.44	± 2.00	P	0.32
5825	-40	-41.41	1.41	± 2.00	P	0.32
5825	-50	-51.41	1.41	± 2.00	P	0.33
5825	-60	-61.58	1.58	± 2.00	P	0.35
5825	-70	-71.53	1.53	± 2.00	P	0.36
5825	-80	-81.58	1.58	± 2.00	P	0.37
5825	-90	-91.76	1.76	± 2.00	P	0.38
5825	-100	-101.39	1.39	± 2.00	P	0.48
70	-15	-15.16	0.16	± 2.00	P	0.21
3300	-15	-15.97	0.97	± 2.00	P	0.31
3800	-15	-16.74	1.74	± 2.00	P	0.31
5180	-15	-16.49	1.49	± 2.00	P	0.31
6000	-15	-16.87	1.87	± 2.00	P	0.31

2.4 信号源:输出电平(TX Level)(RF1OUT)

频率 (Frequency)	标称值 (Nominal)	标准值 (Reference)	误差 (Error)	允许误差 (Limit)	结论 (Pass/Fail)	U (k=2)
(MHz)	(dBm)	(dBm)	(dB)	(dB)		(dB)
870	0	-0.53	0.53	± 1.00	P	0.18
870	-10	-10.54	0.54	± 1.00	P	0.19
870	-20	-20.55	0.55	± 1.00	P	0.19
870	-30	-30.50	0.50	± 1.00	P	0.20
870	-40	-40.55	0.55	± 1.00	P	0.20
870	-50	-50.57	0.57	± 1.00	P	0.24
870	-60	-60.53	0.53	± 1.00	P	0.26
870	-70	-70.53	0.53	± 1.00	P	0.27
870	-80	-80.62	0.62	± 1.00	P	0.29

870	-90	-90.65	0.65	± 1.00	P	0.33
870	-100	-100.60	0.60	± 1.00	P	0.37
1805	0	-0.57	0.57	± 1.00	P	0.30
1805	-10	-10.54	0.54	± 1.00	P	0.31
1805	-20	-20.54	0.54	± 1.00	P	0.31
1805	-30	-30.59	0.59	± 1.00	P	0.32
1805	-40	-40.59	0.59	± 1.00	P	0.32
1805	-50	-50.62	0.62	± 1.00	P	0.34
1805	-60	-60.53	0.53	± 1.00	P	0.35
1805	-70	-70.57	0.57	± 1.00	P	0.36
1805	-80	-80.65	0.65	± 1.00	P	0.37
1805	-90	-90.66	0.66	± 1.00	P	0.45
1805	-100	-100.59	0.59	± 1.00	P	0.48
2484	0	-0.43	0.43	± 1.00	P	0.30
2484	-10	-10.41	0.41	± 1.00	P	0.31
2484	-20	-20.40	0.40	± 1.00	P	0.31
2484	-30	-30.41	0.41	± 1.00	P	0.32
2484	-40	-40.43	0.43	± 1.00	P	0.32
2484	-50	-50.34	0.34	± 1.00	P	0.34
2484	-60	-60.44	0.44	± 1.00	P	0.35
2484	-70	-70.42	0.42	± 1.00	P	0.36
2484	-80	-80.48	0.48	± 1.00	P	0.37
2484	-90	-90.56	0.56	± 1.00	P	0.45
2484	-100	-100.53	0.53	± 1.00	P	0.48
5825	-7	-8.11	1.11	± 2.00	P	0.30
5825	-20	-21.13	1.13	± 2.00	P	0.31
5825	-30	-31.15	1.15	± 2.00	P	0.32
5825	-40	-41.23	1.23	± 2.00	P	0.32
5825	-50	-51.24	1.24	± 2.00	P	0.33
5825	-60	-61.25	1.25	± 2.00	P	0.35
5825	-70	-71.25	1.25	± 2.00	P	0.36
5825	-80	-81.23	1.23	± 2.00	P	0.37
5825	-90	-91.20	1.20	± 2.00	P	0.38
5825	-100	-101.27	1.27	± 2.00	P	0.48
70	-15	-15.17	0.17	± 2.00	P	0.21

3300	-15	-15.96	0.96	±2.00	P	0.31
3800	-15	-16.96	1.96	±2.00	P	0.31
5180	-15	-16.76	1.76	±2.00	P	0.31
6000	-15	-16.87	1.87	±2.00	P	0.31

2.5 信号源:输出电平(TX Level)(RF3COM)

频率 (Frequency) (MHz)	标称值 (Nominal) (dBm)	标准值 (Reference) (dBm)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
870	-5	-5.40	0.40	±1.00	P	0.18
870	-10	-10.38	0.38	±1.00	P	0.19
870	-20	-20.36	0.36	±1.00	P	0.19
870	-30	-30.41	0.41	±1.00	P	0.20
870	-40	-40.34	0.34	±1.00	P	0.20
870	-50	-50.38	0.38	±1.00	P	0.24
870	-60	-60.39	0.39	±1.00	P	0.26
870	-70	-70.35	0.35	±1.00	P	0.27
870	-80	-80.39	0.39	±1.00	P	0.29
870	-90	-90.47	0.47	±1.00	P	0.33
870	-100	-100.49	0.49	±1.00	P	0.37
1805	-5	-5.42	0.42	±1.00	P	0.30
1805	-10	-10.39	0.39	±1.00	P	0.31
1805	-20	-20.35	0.35	±1.00	P	0.31
1805	-30	-30.37	0.37	±1.00	P	0.32
1805	-40	-40.39	0.39	±1.00	P	0.32
1805	-50	-50.37	0.37	±1.00	P	0.34
1805	-60	-60.46	0.46	±1.00	P	0.35
1805	-70	-70.38	0.38	±1.00	P	0.36
1805	-80	-80.44	0.44	±1.00	P	0.37
1805	-90	-90.49	0.49	±1.00	P	0.45
1805	-100	-100.52	0.52	±1.00	P	0.48
2484	-5	-5.27	0.27	±1.00	P	0.30
2484	-10	-10.25	0.25	±1.00	P	0.31
2484	-20	-20.19	0.19	±1.00	P	0.31
2484	-30	-30.24	0.24	±1.00	P	0.32

2484	-40	-40.26	0.26	± 1.00	P	0.32
2484	-50	-50.22	0.22	± 1.00	P	0.34
2484	-60	-60.24	0.24	± 1.00	P	0.35
2484	-70	-70.24	0.24	± 1.00	P	0.36
2484	-80	-80.31	0.31	± 1.00	P	0.37
2484	-90	-90.39	0.39	± 1.00	P	0.45
2484	-100	-100.32	0.32	± 1.00	P	0.48
5825	-15	-16.26	1.26	± 2.00	P	0.31
5825	-20	-21.27	1.27	± 2.00	P	0.31
5825	-30	-31.31	1.31	± 2.00	P	0.32
5825	-40	-41.18	1.18	± 2.00	P	0.32
5825	-50	-51.18	1.18	± 2.00	P	0.33
5825	-60	-61.12	1.12	± 2.00	P	0.35
5825	-70	-71.22	1.22	± 2.00	P	0.36
5825	-80	-81.32	1.32	± 2.00	P	0.37
5825	-90	-91.35	1.35	± 2.00	P	0.38
5825	-100	-101.31	1.31	± 2.00	P	0.48
70	-15	-14.98	-0.02	± 2.00	P	0.21
3300	-15	-15.70	0.70	± 2.00	P	0.31
3800	-15	-16.76	1.76	± 2.00	P	0.31
5180	-15	-16.52	1.52	± 2.00	P	0.31
6000	-15	-16.87	1.87	± 2.00	P	0.31

2.6 信号源:输出电平(TX Level)(RF4COM)

频率 (Frequency) (MHz)	标称值 (Nominal) (dBm)	标准值 (Reference) (dBm)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
870	-5	-5.39	0.39	± 1.00	P	0.18
870	-10	-10.41	0.41	± 1.00	P	0.19
870	-20	-20.37	0.37	± 1.00	P	0.19
870	-30	-30.39	0.39	± 1.00	P	0.20
870	-40	-40.35	0.35	± 1.00	P	0.20
870	-50	-50.36	0.36	± 1.00	P	0.24
870	-60	-60.41	0.41	± 1.00	P	0.26
870	-70	-70.36	0.36	± 1.00	P	0.27

870	-80	-80.41	0.41	± 1.00	P	0.29
870	-90	-90.46	0.46	± 1.00	P	0.33
870	-100	-100.48	0.48	± 1.00	P	0.37
1805	-5	-5.50	0.50	± 1.00	P	0.30
1805	-10	-10.46	0.46	± 1.00	P	0.31
1805	-20	-20.41	0.41	± 1.00	P	0.31
1805	-30	-30.47	0.47	± 1.00	P	0.32
1805	-40	-40.47	0.47	± 1.00	P	0.32
1805	-50	-50.48	0.48	± 1.00	P	0.34
1805	-60	-60.50	0.50	± 1.00	P	0.35
1805	-70	-70.47	0.47	± 1.00	P	0.36
1805	-80	-80.52	0.52	± 1.00	P	0.37
1805	-90	-90.58	0.58	± 1.00	P	0.45
1805	-100	-100.44	0.44	± 1.00	P	0.48
2484	-5	-5.28	0.28	± 1.00	P	0.30
2484	-10	-10.26	0.26	± 1.00	P	0.31
2484	-20	-20.22	0.22	± 1.00	P	0.31
2484	-30	-30.30	0.30	± 1.00	P	0.32
2484	-40	-40.30	0.30	± 1.00	P	0.32
2484	-50	-50.30	0.30	± 1.00	P	0.34
2484	-60	-60.25	0.25	± 1.00	P	0.35
2484	-70	-70.28	0.28	± 1.00	P	0.36
2484	-80	-80.35	0.35	± 1.00	P	0.37
2484	-90	-90.40	0.40	± 1.00	P	0.45
2484	-100	-100.38	0.38	± 1.00	P	0.48
5825	-15	-16.22	1.22	± 2.00	P	0.31
5825	-20	-21.19	1.19	± 2.00	P	0.31
5825	-30	-31.26	1.26	± 2.00	P	0.32
5825	-40	-41.21	1.21	± 2.00	P	0.32
5825	-50	-51.21	1.21	± 2.00	P	0.33
5825	-60	-61.22	1.22	± 2.00	P	0.35
5825	-70	-71.31	1.31	± 2.00	P	0.36
5825	-80	-81.38	1.38	± 2.00	P	0.37
5825	-90	-91.42	1.42	± 2.00	P	0.38
5825	-100	-101.43	1.43	± 2.00	P	0.48

70	-15	-15.06	0.06	±2.00	P	0.21
3300	-15	-15.74	0.74	±2.00	P	0.31
3800	-15	-16.77	1.77	±2.00	P	0.31
5180	-15	-16.49	1.49	±2.00	P	0.31
6000	-15	-16.65	1.65	±2.00	P	0.31

2.7 信号源:输出电平(TX Level)(RF3OUT)

频率 (Frequency) (MHz)	标称值 (Nominal) (dBm)	标准值 (Reference) (dBm)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
870	0	-0.43	0.43	±1.00	P	0.18
870	-10	-10.39	0.39	±1.00	P	0.19
870	-20	-20.44	0.44	±1.00	P	0.19
870	-30	-30.41	0.41	±1.00	P	0.20
870	-40	-40.48	0.48	±1.00	P	0.20
870	-50	-50.46	0.46	±1.00	P	0.24
870	-60	-60.50	0.50	±1.00	P	0.26
870	-70	-70.46	0.46	±1.00	P	0.27
870	-80	-80.54	0.54	±1.00	P	0.29
870	-90	-90.54	0.54	±1.00	P	0.33
870	-100	-100.51	0.51	±1.00	P	0.37
1805	0	-0.46	0.46	±1.00	P	0.30
1805	-10	-10.43	0.43	±1.00	P	0.31
1805	-20	-20.45	0.45	±1.00	P	0.31
1805	-30	-30.43	0.43	±1.00	P	0.32
1805	-40	-40.45	0.45	±1.00	P	0.32
1805	-50	-50.48	0.48	±1.00	P	0.34
1805	-60	-60.40	0.40	±1.00	P	0.35
1805	-70	-70.42	0.42	±1.00	P	0.36
1805	-80	-80.57	0.57	±1.00	P	0.37
1805	-90	-90.52	0.52	±1.00	P	0.45
1805	-100	-100.49	0.49	±1.00	P	0.48
2484	0	-0.27	0.27	±1.00	P	0.30
2484	-10	-10.22	0.22	±1.00	P	0.31
2484	-20	-20.24	0.24	±1.00	P	0.31

2484	-30	-30.25	0.25	± 1.00	P	0.32
2484	-40	-40.20	0.20	± 1.00	P	0.32
2484	-50	-50.22	0.22	± 1.00	P	0.34
2484	-60	-60.26	0.26	± 1.00	P	0.35
2484	-70	-70.24	0.24	± 1.00	P	0.36
2484	-80	-80.35	0.35	± 1.00	P	0.37
2484	-90	-90.37	0.37	± 1.00	P	0.45
2484	-100	-100.40	0.40	± 1.00	P	0.48
5825	-7	-8.83	1.83	± 2.00	P	0.30
5825	-20	-21.93	1.93	± 2.00	P	0.31
5825	-30	-31.76	1.76	± 2.00	P	0.32
5825	-40	-41.74	1.74	± 2.00	P	0.32
5825	-50	-51.75	1.75	± 2.00	P	0.33
5825	-60	-61.58	1.58	± 2.00	P	0.35
5825	-70	-71.84	1.84	± 2.00	P	0.36
5825	-80	-81.89	1.89	± 2.00	P	0.37
5825	-90	-91.81	1.81	± 2.00	P	0.38
5825	-100	-101.67	1.67	± 2.00	P	0.48
70	-15	-15.08	0.08	± 2.00	P	0.21
3300	-15	-15.71	0.71	± 2.00	P	0.31
3800	-15	-16.79	1.79	± 2.00	P	0.31
5180	-15	-16.85	1.85	± 2.00	P	0.31
6000	-15	-16.89	1.89	± 2.00	P	0.31

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2.8 信号源:谐波(TX Hamonics)(RF1COM)

载波频率 (Frequency) (MHz)	谐波频率 (Frequency) (MHz)	标准值 (Reference) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
70	140	-55.7	<-30.0	P	0.8
70	210	-59.2	<-40.0	P	0.8
900	1800	-39.8	<-30.0	P	0.8
900	2700	-62.1	<-40.0	P	0.8
1800	3600	-43.2	<-30.0	P	0.8
1800	5400	-63.6	<-40.0	P	0.8
2200	4400	-45.1	<-30.0	P	0.8

2200	6600	-63.3	<-40.0	P	0.8
3300	6600	-42.0	<-30.0	P	1.8
3300	9900	-77.8	<-40.0	P	1.8
4300	8600	-48.0	<-30.0	P	1.8
4300	12900	-79.1	<-40.0	P	1.8
5945	11890	-61.2	<-30.0	P	1.8
5945	17835	-71.6	<-40.0	P	1.8

2.9 信号源:谐波(TX Hamonics)(RF2COM)

载波频率 (Frequency) (MHz)	谐波频率 (Frequency) (MHz)	标准值 (Reference) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
70	140	-51.9	<-30.0	P	0.8
70	210	-56.9	<-40.0	P	0.8
900	1800	-53.1	<-30.0	P	0.8
900	2700	-61.3	<-40.0	P	0.8
1800	3600	-45.6	<-30.0	P	0.8
1800	5400	-62.2	<-40.0	P	0.8
2200	4400	-46.6	<-30.0	P	0.8
2200	6600	-65.1	<-40.0	P	0.8
3300	6600	-45.7	<-30.0	P	1.8
3300	9900	-72.9	<-40.0	P	1.8
4300	8600	-42.2	<-30.0	P	1.8
4300	12900	-80.4	<-40.0	P	1.8
5945	11890	-63.0	<-30.0	P	1.8
5945	17835	-74.2	<-40.0	P	1.8

2.10 信号源:谐波(TX Hamonics)(RF1OUT)

载波频率 (Frequency) (MHz)	谐波频率 (Frequency) (MHz)	标准值 (Reference) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
70	140	-54.5	<-30.0	P	0.8
70	210	-62.6	<-40.0	P	0.8
900	1800	-53.4	<-30.0	P	0.8
900	2700	-62.9	<-40.0	P	0.8

1800	3600	-79.8	<-30.0	P	0.8
1800	5400	-81.9	<-40.0	P	0.8
2200	4400	-57.2	<-30.0	P	0.8
2200	6600	-77.3	<-40.0	P	0.8
3300	6600	-49.3	<-30.0	P	1.8
3300	9900	-84.4	<-40.0	P	1.8
4300	8600	-54.8	<-30.0	P	1.8
4300	12900	-78.6	<-40.0	P	1.8
5945	11890	-62.1	<-30.0	P	1.8
5945	17835	-73.2	<-40.0	P	1.8

2.11 信号源:谐波(TX Hamonics)(RF3COM)

载波频率 (Frequency) (MHz)	谐波频率 (Frequency) (MHz)	标准值 (Reference) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
70	140	-56.4	<-30.0	P	0.8
70	210	-58.2	<-40.0	P	0.8
900	1800	-39.4	<-30.0	P	0.8
900	2700	-60.5	<-40.0	P	0.8
1800	3600	-43.3	<-30.0	P	0.8
1800	5400	-64.0	<-40.0	P	0.8
2200	4400	-45.0	<-30.0	P	0.8
2200	6600	-62.9	<-40.0	P	0.8
3300	6600	-42.1	<-30.0	P	1.8
3300	9900	-76.7	<-40.0	P	1.8
4300	8600	-47.5	<-30.0	P	1.8
4300	12900	-77.6	<-40.0	P	1.8
5945	11890	-62.0	<-30.0	P	1.8
5945	17835	-74.0	<-40.0	P	1.8

2.12 信号源:谐波(TX Hamonics)(RF4COM)

载波频率 (Frequency) (MHz)	谐波频率 (Frequency) (MHz)	标准值 (Reference) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
70	140	-50.8	<-30.0	P	0.8

70	210	-56.5	<-40.0	P	0.8
900	1800	-41.1	<-30.0	P	0.8
900	2700	-60.3	<-40.0	P	0.8
1800	3600	-46.0	<-30.0	P	0.8
1800	5400	-63.3	<-40.0	P	0.8
2200	4400	-46.9	<-30.0	P	0.8
2200	6600	-64.7	<-40.0	P	0.8
3300	6600	-45.8	<-30.0	P	1.8
3300	9900	-73.1	<-40.0	P	1.8
4300	8600	-42.4	<-30.0	P	1.8
4300	12900	-80.0	<-40.0	P	1.8
5945	11890	-63.2	<-30.0	P	1.8
5945	17835	-73.9	<-40.0	P	1.8

2.13 信号源:谐波(TX Hamonics)(RF3OUT)

载波频率 (Frequency) (MHz)	谐波频率 (Frequency) (MHz)	标准值 (Reference) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
70	140	-51.2	<-30.0	P	0.8
70	210	-59.6	<-40.0	P	0.8
900	1800	-52.7	<-30.0	P	0.8
900	2700	-62.1	<-40.0	P	0.8
1800	3600	-79.4	<-30.0	P	0.8
1800	5400	-80.2	<-40.0	P	0.8
2200	4400	-58.8	<-30.0	P	0.8
2200	6600	-75.3	<-40.0	P	0.8
3300	6600	-49.2	<-30.0	P	1.8
3300	9900	-78.3	<-40.0	P	1.8
4300	8600	-54.8	<-30.0	P	1.8
4300	12900	-93.8	<-40.0	P	1.8
5945	11890	-60.3	<-30.0	P	1.8
5945	17835	-74.5	<-40.0	P	1.8

2.14 信号源:非谐波(TX Nonhamonics)(RF1COM)

模式	载波频率	谐波频率	标准值	允许误差	结论	U
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(Mode)	(Frequency) (MHz)	(Frequency) (MHz)	(Reference) (dB)	(Limit) (dB)	(Pass/Fail)	(k=2) (dB)
LO2	1100	4000	-81.7	<-60.0	P	0.8
LO1	400	4300	-83.1	<-60.0	P	0.8
LO1	1810	5710	-83.8	<-60.0	P	0.8
IQ-Mod-Carrier	1800	1900	-84.5	<-60.0	P	0.8
IQ-Mod-Image	1800	2000	-65.6	<-60.0	P	0.8

2.15 信号源:信噪比(TX Signal to Noise Ratio)(RF1COM)

载波频率 (Frequency) (MHz)	输出电平 (Output Level) (dBm)	标准值 (Reference) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
71	-24.85	-115.8	<-95.0	P	0.8
451	-21.05	-118.2	<-95.0	P	0.8
901	-23.23	-115.6	<-95.0	P	0.8
1801	-26.15	-112.6	<-95.0	P	0.8
2101	-27.25	-110.0	<-95.0	P	0.8
2501	-27.39	-110.3	<-95.0	P	0.8
3281	-30.00	-105.1	<-95.0	P	0.8
4301	-30.00	-106.0	<-92.0	P	0.8
5901	-30.00	-105.0	<-92.0	P	0.8

2.16 信号源:相位噪声(TX Phase Noise-SSB)(RF1COM)

载波频率 (Frequency) (MHz)	载波偏置 (Carrier offset) (kHz)	标准值 (Reference) (dBc/Hz)	允许误差 (Limit) (dBc/Hz)	结论 (Pass/Fail)	U (k=2) (dB)
70	1000	-128.8	<-120.0	P	0.9
450	1000	-131.0	<-120.0	P	0.9
950	1000	-132.9	<-120.0	P	0.9
1850	1000	-133.6	<-120.0	P	0.9
2100	1000	-132.8	<-120.0	P	0.9
2500	1000	-128.2	<-120.0	P	0.9
3298	1000	-134.4	<-120.0	P	0.9
4300	1000	-129.1	<-117.0	P	0.9
5945	1000	-129.4	<-117.0	P	0.9

3 射频分析仪(RF Analyzer)

3.1 分析仪:输入电平(Rx Level)(RF1COM)

频率 (Frequency) (MHz)	标准值 (Reference) (dBm)	指示值 (Indicated) (dBm)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
825	10	10.10	0.10	±0.70	P	0.34
825	0	0.11	0.11	±0.70	P	0.34
825	-10	-9.92	0.08	±0.70	P	0.33
825	-20	-19.92	0.08	±0.70	P	0.33
825	-30	-29.92	0.08	±0.70	P	0.34
825	-40	-39.93	0.07	±0.70	P	0.34
825	-50	-49.92	0.08	±0.70	P	0.36
825	-60	-59.89	0.11	±0.70	P	0.38
825	-70	-69.90	0.10	±0.70	P	0.39
825	-80	-79.45	0.55	±0.70	P	0.41
1710	10	10.05	0.05	±0.70	P	0.47
1710	0	0.05	0.05	±0.70	P	0.47
1710	-10	-10.00	0.00	±0.70	P	0.46
1710	-20	-20.00	0.00	±0.70	P	0.46
1710	-30	-29.97	0.03	±0.70	P	0.47
1710	-40	-39.98	0.02	±0.70	P	0.47
1710	-50	-49.97	0.03	±0.70	P	0.57
1710	-60	-59.96	0.04	±0.70	P	0.58
1710	-70	-69.92	0.08	±0.70	P	0.59
1710	-80	-79.67	0.33	±0.70	P	0.60
2480	10	10.05	0.05	±0.70	P	0.47
2480	0	0.08	0.08	±0.70	P	0.47
2480	-10	-9.93	0.07	±0.70	P	0.46
2480	-20	-19.94	0.06	±0.70	P	0.46
2480	-30	-29.95	0.05	±0.70	P	0.47
2480	-40	-39.97	0.03	±0.70	P	0.47
2480	-50	-49.97	0.03	±0.70	P	0.57
2480	-60	-59.98	0.02	±0.70	P	0.58
2480	-70	-70.01	-0.01	±0.70	P	0.59

2480	-80	-79.61	0.39	±0.70	P	0.60
5850	10	10.59	0.59	±1.20	P	0.47
5850	0	0.61	0.61	±1.20	P	0.47
5850	-10	-9.41	0.59	±1.20	P	0.46
5850	-20	-19.45	0.55	±1.20	P	0.46
5850	-30	-29.43	0.57	±1.20	P	0.47
5850	-40	-39.45	0.55	±1.20	P	0.47
5850	-50	-49.50	0.50	±1.20	P	0.57
5850	-60	-59.46	0.54	±1.20	P	0.58
5850	-70	-69.52	0.48	±1.20	P	0.59
150	0	0.22	0.22	±0.70	P	0.34
3300	0	0.18	0.18	±1.20	P	0.47
3800	0	0.10	0.10	±1.20	P	0.47
5180	0	0.40	0.40	±1.20	P	0.47
6000	0	0.49	0.49	±1.20	P	0.47

3.2 分析仪:输入电平(Rx Level)(RF2COM)

频率 (Frequency) (MHz)	标准值 (Reference) (dBm)	指示值 (Indicated) (dBm)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
825	10	10.09	0.09	±0.70	P	0.34
825	0	0.10	0.10	±0.70	P	0.34
825	-10	-9.91	0.09	±0.70	P	0.33
825	-20	-19.90	0.10	±0.70	P	0.33
825	-30	-29.92	0.08	±0.70	P	0.34
825	-40	-39.93	0.07	±0.70	P	0.34
825	-50	-49.92	0.08	±0.70	P	0.36
825	-60	-59.90	0.10	±0.70	P	0.38
825	-70	-69.87	0.13	±0.70	P	0.39
825	-80	-79.59	0.41	±0.70	P	0.41
1710	10	9.99	-0.01	±0.70	P	0.47
1710	0	0.03	0.03	±0.70	P	0.47
1710	-10	-10.02	-0.02	±0.70	P	0.46
1710	-20	-20.02	-0.02	±0.70	P	0.46
1710	-30	-30.02	-0.02	±0.70	P	0.47

1710	-40	-40.03	-0.03	±0.70	P	0.47
1710	-50	-50.02	-0.02	±0.70	P	0.57
1710	-60	-60.00	0.00	±0.70	P	0.58
1710	-70	-70.01	-0.01	±0.70	P	0.59
1710	-80	-79.56	0.44	±0.70	P	0.60
2480	10	9.97	-0.03	±0.70	P	0.47
2480	0	0.02	0.02	±0.70	P	0.47
2480	-10	-10.03	-0.03	±0.70	P	0.46
2480	-20	-20.02	-0.02	±0.70	P	0.46
2480	-30	-30.05	-0.05	±0.70	P	0.47
2480	-40	-40.07	-0.07	±0.70	P	0.47
2480	-50	-50.06	-0.06	±0.70	P	0.57
2480	-60	-60.08	-0.08	±0.70	P	0.58
2480	-70	-70.07	-0.07	±0.70	P	0.59
2480	-80	-79.62	0.38	±0.70	P	0.60
5850	10	10.10	0.10	±1.20	P	0.47
5850	0	0.15	0.15	±1.20	P	0.47
5850	-10	-9.81	0.19	±1.20	P	0.46
5850	-20	-19.86	0.14	±1.20	P	0.46
5850	-30	-29.90	0.10	±1.20	P	0.47
5850	-40	-39.92	0.08	±1.20	P	0.47
5850	-50	-49.96	0.04	±1.20	P	0.57
5850	-60	-59.98	0.02	±1.20	P	0.58
5850	-70	-69.98	0.02	±1.20	P	0.59
150	0	0.14	0.14	±0.70	P	0.34
3300	0	0.01	0.01	±1.20	P	0.47
3800	0	-0.15	-0.15	±1.20	P	0.47
5180	0	0.22	0.22	±1.20	P	0.47
6000	0	0.31	0.31	±1.20	P	0.47

3.3 分析仪:输入电平(Rx Level)(RF3COM)

频率 (Frequency) (MHz)	标准值 (Reference) (dBm)	指示值 (Indicated) (dBm)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
825	10	10.01	0.01	±0.70	P	0.34

825	0	0.02	0.02	±0.70	P	0.34
825	-10	-10.00	0.00	±0.70	P	0.33
825	-20	-20.00	0.00	±0.70	P	0.33
825	-30	-30.01	-0.01	±0.70	P	0.34
825	-40	-40.02	-0.02	±0.70	P	0.34
825	-50	-50.01	-0.01	±0.70	P	0.36
825	-60	-59.99	0.01	±0.70	P	0.38
825	-70	-69.96	0.04	±0.70	P	0.39
825	-80	-79.69	0.31	±0.70	P	0.41
1710	10	10.03	0.03	±0.70	P	0.47
1710	0	0.05	0.05	±0.70	P	0.47
1710	-10	-10.01	-0.01	±0.70	P	0.46
1710	-20	-20.01	-0.01	±0.70	P	0.46
1710	-30	-30.01	-0.01	±0.70	P	0.47
1710	-40	-40.02	-0.02	±0.70	P	0.47
1710	-50	-50.01	-0.01	±0.70	P	0.57
1710	-60	-60.01	-0.01	±0.70	P	0.58
1710	-70	-70.04	-0.04	±0.70	P	0.59
1710	-80	-79.68	0.32	±0.70	P	0.60
2480	10	9.98	-0.02	±0.70	P	0.47
2480	0	0.00	0.00	±0.70	P	0.47
2480	-10	-10.03	-0.03	±0.70	P	0.46
2480	-20	-20.03	-0.03	±0.70	P	0.46
2480	-30	-30.02	-0.02	±0.70	P	0.47
2480	-40	-40.04	-0.04	±0.70	P	0.47
2480	-50	-50.04	-0.04	±0.70	P	0.57
2480	-60	-60.05	-0.05	±0.70	P	0.58
2480	-70	-70.03	-0.03	±0.70	P	0.59
2480	-80	-79.68	0.32	±0.70	P	0.60
5850	10	9.92	-0.08	±1.20	P	0.47
5850	0	-0.04	-0.04	±1.20	P	0.47
5850	-10	-9.96	0.04	±1.20	P	0.46
5850	-20	-19.98	0.02	±1.20	P	0.46
5850	-30	-30.01	-0.01	±1.20	P	0.47
5850	-40	-40.04	-0.04	±1.20	P	0.47

5850	-50	-50.09	-0.09	± 1.20	P	0.57
5850	-60	-60.12	-0.12	± 1.20	P	0.58
5850	-70	-70.31	-0.31	± 1.20	P	0.59
150	0	0.17	0.17	± 0.70	P	0.34
3300	0	0.09	0.09	± 1.20	P	0.47
3800	0	0.10	0.10	± 1.20	P	0.47
5180	0	0.31	0.31	± 1.20	P	0.47
6000	0	0.33	0.33	± 1.20	P	0.47

3.4 分析仪:输入电平(Rx Level)(RF4COM)

频率 (Frequency) (MHz)	标准值 (Reference) (dBm)	指示值 (Indicated) (dBm)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
825	10	10.02	0.02	± 0.70	P	0.34
825	0	0.03	0.03	± 0.70	P	0.34
825	-10	-9.99	0.01	± 0.70	P	0.33
825	-20	-19.99	0.01	± 0.70	P	0.33
825	-30	-29.97	0.03	± 0.70	P	0.34
825	-40	-39.97	0.03	± 0.70	P	0.34
825	-50	-49.97	0.03	± 0.70	P	0.36
825	-60	-59.95	0.05	± 0.70	P	0.38
825	-70	-69.94	0.06	± 0.70	P	0.39
825	-80	-79.49	0.51	± 0.70	P	0.41
1710	10	9.97	-0.03	± 0.70	P	0.47
1710	0	-0.01	-0.01	± 0.70	P	0.47
1710	-10	-10.07	-0.07	± 0.70	P	0.46
1710	-20	-20.07	-0.07	± 0.70	P	0.46
1710	-30	-30.05	-0.05	± 0.70	P	0.47
1710	-40	-40.06	-0.06	± 0.70	P	0.47
1710	-50	-50.05	-0.05	± 0.70	P	0.57
1710	-60	-60.07	-0.07	± 0.70	P	0.58
1710	-70	-69.99	0.01	± 0.70	P	0.59
1710	-80	-79.57	0.43	± 0.70	P	0.60
2480	10	9.91	-0.09	± 0.70	P	0.47
2480	0	-0.08	-0.08	± 0.70	P	0.47

2480	-10	-10.13	-0.13	±0.70	P	0.46
2480	-20	-20.12	-0.12	±0.70	P	0.46
2480	-30	-30.10	-0.10	±0.70	P	0.47
2480	-40	-40.12	-0.12	±0.70	P	0.47
2480	-50	-50.12	-0.12	±0.70	P	0.57
2480	-60	-60.13	-0.13	±0.70	P	0.58
2480	-70	-70.13	-0.13	±0.70	P	0.59
2480	-80	-79.72	0.28	±0.70	P	0.60
5850	10	10.05	0.05	±1.20	P	0.47
5850	0	0.11	0.11	±1.20	P	0.47
5850	-10	-9.90	0.10	±1.20	P	0.46
5850	-20	-19.95	0.05	±1.20	P	0.46
5850	-30	-30.00	0.00	±1.20	P	0.47
5850	-40	-40.03	-0.03	±1.20	P	0.47
5850	-50	-50.07	-0.07	±1.20	P	0.57
5850	-60	-60.10	-0.10	±1.20	P	0.58
5850	-70	-70.27	-0.27	±1.20	P	0.59
150	0	0.13	0.13	±0.70	P	0.34
3300	0	0.08	0.08	±1.20	P	0.47
3800	0	-0.02	-0.02	±1.20	P	0.47
5180	0	0.14	0.14	±1.20	P	0.47
6000	0	0.22	0.22	±1.20	P	0.47

3.5 分析仪:谐波(Rx Harmonics)(RF1COM)

载波频率 (Frequency) (MHz)	谐波频率 (Frequency) (MHz)	指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
900	1800	-58.0	<-30.0	P	0.8
900	2700	-64.2	<-45.0	P	0.8
1100	2200	-57.8	<-30.0	P	0.8
1100	3300	-64.3	<-45.0	P	0.8
1650	3300	-51.6	<-30.0	P	0.8
2000	4000	-62.0	<-30.0	P	0.8
2000	6000	-63.1	<-50.0	P	0.8
3000	6000	-61.6	<-30.0	P	0.8

3.6 分析仪:谐波(Rx Harmonics)(RF2COM)

载波频率 (Frequency) (MHz)	谐波频率 (Frequency) (MHz)	指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
900	1800	-58.5	<-30.0	P	0.8
900	2700	-64.4	<-45.0	P	0.8
1100	2200	-57.5	<-30.0	P	0.8
1100	3300	-63.6	<-45.0	P	0.8
1650	3300	-50.0	<-30.0	P	0.8
2000	4000	-56.8	<-30.0	P	0.8
2000	6000	-62.8	<-50.0	P	0.8
3000	6000	-61.9	<-30.0	P	0.8

3.7 分析仪:谐波(Rx Harmonics)(RF3COM)

载波频率 (Frequency) (MHz)	谐波频率 (Frequency) (MHz)	指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
900	1800	-58.4	<-30.0	P	0.8
900	2700	-64.5	<-45.0	P	0.8
1100	2200	-58.9	<-30.0	P	0.8
1100	3300	-64.4	<-45.0	P	0.8
1650	3300	-52.0	<-30.0	P	0.8
2000	4000	-62.4	<-30.0	P	0.8
2000	6000	-62.9	<-50.0	P	0.8
3000	6000	-59.5	<-30.0	P	0.8

3.8 分析仪:谐波(Rx Harmonics)(RF4COM)

载波频率 (Frequency) (MHz)	谐波频率 (Frequency) (MHz)	指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
900	1800	-58.8	<-30.0	P	0.8
900	2700	-64.1	<-45.0	P	0.8
1100	2200	-58.7	<-30.0	P	0.8
1100	3300	-63.7	<-45.0	P	0.8

1650	3300	-49.7	<-30.0	P	0.8
2000	4000	-56.9	<-30.0	P	0.8
2000	6000	-62.3	<-50.0	P	0.8
3000	6000	-60.1	<-30.0	P	0.8

3.9 分析仪:寄生响应(Rx Spurious Response)(RF1COM)

载波频率 (Frequency) (MHz)	谐波频率 (Frequency) (MHz)	exp.nom. power settings (dBm)	指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
2412.50	450.00	5	-69.2	<-55.0	P	0.8
2862.50	900.00	5	-67.9	<-55.0	P	0.8
3812.50	1850.00	5	-67.6	<-55.0	P	0.8
1962.50	2025.00	5	-67.0	<-55.0	P	0.8
1308.33	2026.00	5	-67.0	<-55.0	P	0.8
800.00	950.00	5	-67.8	<-55.0	P	0.8
3925.00	300.00	5	-69.3	<-55.0	P	0.8
1987.50	2100.00	5	-67.5	<-55.0	P	0.8

3.10 分析仪:相位噪声(RX Phase Noise-SSB)(RF1COM)

载波频率 (Frequency) (MHz)	载波偏置 (Carrier offset) (kHz)	指示值 (Indicated) (dBc/Hz)	允许误差 (Limit) (dBc/Hz)	结论 (Pass/Fail)	U (k=2) (dB)
200	1000	-124.0	<-120.0	P	0.9
780	1000	-120.1	<-120.0	P	0.9
800	1000	-121.0	<-120.0	P	0.9
1100	1000	-125.7	<-120.0	P	0.9
1200	1000	-123.0	<-120.0	P	0.9
1844	1000	-124.7	<-120.0	P	0.9
1890	1000	-125.1	<-120.0	P	0.9
2200	1000	-123.2	<-120.0	P	0.9
2300	1000	-124.0	<-120.0	P	0.9
3299	1000	-122.4	<-120.0	P	0.9
4300	1000	-123.3	<-117.0	P	0.9
5945	1000	-124.1	<-117.0	P	0.9

3.11 分析仪:内寄生响应(Rx Inherent Spurious Response)(RF1COM)

载波频率 (Frequency) (MHz)	指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
333	-108.2	<-100.0	P	0.9
450	-109.7	<-100.0	P	0.9
900	-115.5	<-100.0	P	0.9
1400	-137.1	<-100.0	P	0.9
1800	-114.9	<-100.0	P	0.9
2100	-111.3	<-100.0	P	0.9
2200	-124.1	<-100.0	P	0.9
2700	-109.3	<-100.0	P	0.9
3300	-106.1	<-100.0	P	0.9
4300	-115.1	<-100.0	P	0.9
5945	-116.9	<-100.0	P	0.9

3.12 分析仪:动态范围(Rx Dynamic)(RF1COM)

载波频率 (Frequency) (MHz)	exp.nom. power settings (dBm)	指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
451	-8	-119.3	<-100.0	P	0.9
901	-8	-113.0	<-100.0	P	0.9
1801	-8	-106.8	<-100.0	P	0.9
2101	-8	-107.0	<-100.0	P	0.9
2501	-8	-116.3	<-100.0	P	0.9
2701	-8	-112.3	<-100.0	P	0.9
3281	-8	-113.7	<-100.0	P	0.9
4301	-8	-118.7	<-97.0	P	0.9
5945	-8	-109.6	<-97.0	P	0.9

4 调制分析仪(Modulation Analyzer)

4.1 分析仪:GSM调制解调(Tx Modulation Demodulation:GSM)(RF1COM)

4.1.1 .误差矢量幅度(Error Vector Magnitude)(GSM-8PSK)

载波频率 (C-Freq.)	指示值 (Indicated)	允许误差 (Limit)	结论 (Pass/Fail)	U (k=2)
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(MHz)		(%)	(%)		(%)
890.2	RMS	0.38	± 0.80	P	0.58
914.8	RMS	0.25	± 0.80	P	0.58
1710.2	RMS	0.47	± 0.80	P	0.58
1784.8	RMS	0.49	± 0.80	P	0.58
1850.2	RMS	0.47	± 0.80	P	0.58
1909.8	RMS	0.45	± 0.80	P	0.58

4.1.2 频率误差(Frequency Error)(GSM-8PSK)(Ref. Frequency Locked)

载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (Hz)	允许误差 (Limit) (Hz)	结论 (Pass/Fail)	U (k=2) (Hz)
890.2	-2.2	± 20.0	P	8.0
914.8	-3.3	± 20.0	P	8.0
1710.2	-1.4	± 20.0	P	8.0
1784.8	-4.0	± 20.0	P	8.0
1850.2	-4.4	± 20.0	P	8.0
1909.8	-1.6	± 20.0	P	8.0

4.1.3 IQ偏移(IQ Offset)(GSM-8PSK)

载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
890.2	-68.67	<-50.0	P	1.0
914.8	-71.59	<-50.0	P	1.0
1710.2	-65.02	<-50.0	P	1.0
1784.8	-67.81	<-50.0	P	1.0
1850.2	-62.80	<-50.0	P	1.0
1909.8	-56.91	<-50.0	P	1.0

4.1.4 相位误差(Phase Error)(GSM-GMSK)

载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (deg)	允许误差 (Limit) (deg)	结论 (Pass/Fail)	U (k=2) (deg)
890.2	RMS 0.15	± 0.60	P	0.58

	Peak	0.58	±2.00	P	0.58
914.8	RMS	0.19	±0.60	P	0.58
	Peak	0.59	±2.00	P	0.58
1710.2	RMS	0.17	±0.60	P	0.58
	Peak	0.85	±2.00	P	0.58
1784.8	RMS	0.27	±0.60	P	0.58
	Peak	0.77	±2.00	P	0.58
1850.2	RMS	0.22	±0.60	P	0.58
	Peak	0.80	±2.00	P	0.58
1909.8	RMS	0.21	±0.60	P	0.58
	Peak	0.81	±2.00	P	0.58

4.2 分析仪:WCDMA调制解调(Tx Modulation Demodulation:WCDMA)(RF1COM)

4.2.1 误差矢量幅度(Error Vector Magnitude)

载波频率 (C-Freq.) (MHz)		指示值 (Indicated) (%)	允许误差 (Limit) (%)	结论 (Pass/Fail)	U (k=2) (%)
1922.4	RMS	0.81	±2.50	P	0.58
1950	RMS	0.49	±2.50	P	0.58
1977.6	RMS	0.53	±2.50	P	0.58

4.2.2 频率误差(Frequency Error)(Ref. Frequency Locked)

载波频率 (C-Freq.) (MHz)		指示值 (Indicated) (Hz)	允许误差 (Limit) (Hz)	结论 (Pass/Fail)	U (k=2) (Hz)
1922.4		-3.9	±20.0	P	8.0
1950		-3.1	±20.0	P	8.0
1977.6		-2.6	±20.0	P	8.0

4.2.3 IQ原点偏移(IQ Origin offset)

载波频率 (C-Freq.) (MHz)		指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
1922.4		-76.8	<-55.0	P	1.0
1950		-68.8	<-55.0	P	1.0
1977.6		-62.2	<-55.0	P	1.0

4.2.4 IQ不平衡(IQ Imbalance)

载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
1922.4	-57.4	<-50.0	P	1.0
1950	-64.1	<-50.0	P	1.0
1977.6	-64.5	<-50.0	P	1.0

4.2.5 信道功率测量(Power Measurement)

频率 (Frequency) (MHz)	标准值 (Reference) (dBm)	指示值 (Indicated) (dBm)	误差 (Error) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
1922.4	-20.00	-19.71	0.29	± 0.70	P	0.34

4.2.6 邻道泄露比(ACLR)

载波频率 (Frequency) (MHz)	载波偏置 (Carrier offset) (MHz)	指示值 (Indicated) (dBc)	允许误差 (Limit) (dBc)	结论 (Pass/Fail)	U (k=2) (dB)
915	5	-70.1	<-54.0	P	0.9
915	-5	-70.6	<-54.0	P	0.9
915	10	-70.4	<-57.0	P	0.9
915	-10	-70.4	<-57.0	P	0.9
2570	5	-71.2	<-54.0	P	0.9
2570	-5	-69.8	<-54.0	P	0.9
2570	10	-71.0	<-57.0	P	0.9
2570	-10	-70.0	<-57.0	P	0.9

4.3 分析仪:FDD-LTE调制解调(Tx Modulation Demodulation:FDD-LTE)(RF1COM)

4.3.1 误差矢量幅度(Error Vector Magnitude)

调制 (Modulation)	载波频率 (C-Freq.) (MHz)		指示值 (Indicated) (%)	允许误差 (Limit) (%)	结论 (Pass/Fail)	U (k=2) (%)
QPSK	1920	RMS	0.64	± 1.00	P	0.58
	1980	RMS	0.70	± 1.00	P	0.58
	2500	RMS	0.58	± 1.00	P	0.58

16QAM	2570	RMS	0.64	± 1.00	P	0.58
	1920	RMS	0.67	± 1.00	P	0.58
	1980	RMS	0.63	± 1.00	P	0.58
	2500	RMS	0.63	± 1.00	P	0.58
64QAM	2570	RMS	0.62	± 1.00	P	0.58
	1920	RMS	0.61	± 1.00	P	0.58
	1980	RMS	0.70	± 1.00	P	0.58
	2500	RMS	0.68	± 1.00	P	0.58
	2570	RMS	0.67	± 1.00	P	0.58

4.3.2 幅度误差(Magnitude Error)

调制 (Modulation)	载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (%)	U ($k=2$) (%)
QPSK	1920	0.44	0.58
	1980	0.38	0.58
	2500	0.36	0.58
	2570	0.45	0.58
16QAM	1920	0.38	0.58
	1980	0.43	0.58
	2500	0.39	0.58
	2570	0.41	0.58
64QAM	1920	0.35	0.58
	1980	0.36	0.58
	2500	0.42	0.58
	2570	0.37	0.58

4.3.3 频率误差(Frequency Error)(Ref. Frequency Locked)

调制 (Modulation)	载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (Hz)	允许误差 (Limit) (Hz)	结论 (Pass/Fail)	U ($k=2$) (Hz)
QPSK	1920	1.5	± 20.0	P	8.0
	1980	1.8	± 20.0	P	8.0
	2500	5.7	± 20.0	P	8.0
	2570	5.9	± 20.0	P	8.0

16QAM	1920	2.0	± 20.0	P	8.0
	1980	3.7	± 20.0	P	8.0
	2500	4.0	± 20.0	P	8.0
	2570	6.5	± 20.0	P	8.0
64QAM	1920	4.2	± 20.0	P	8.0
	1980	4.2	± 20.0	P	8.0
	2500	4.5	± 20.0	P	8.0
	2570	5.2	± 20.0	P	8.0

4.3.4 相位误差(Phase Error)

调制 (Modulation)	载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (deg)	U (k=2) (deg)
QPSK	1920	0.33	0.58
	1980	0.24	0.58
	2500	0.26	0.58
	2570	0.25	0.58
16QAM	1920	0.32	0.58
	1980	0.28	0.58
	2500	0.24	0.58
	2570	0.32	0.58
64QAM	1920	0.30	0.58
	1980	0.31	0.58
	2500	0.24	0.58
	2570	0.28	0.58

4.3.5 IQ原点偏移(IQ Origin offset)

调制 (Modulation)	载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
QPSK	1920	-59.7	<-50.0	P	1.0
	1980	-57.3	<-50.0	P	1.0
	2500	-58.3	<-50.0	P	1.0
	2570	-59.7	<-50.0	P	1.0
16QAM	1920	-60.2	<-50.0	P	1.0

64QAM	1980	-59.9	<-50.0	P	1.0
	2500	-59.1	<-50.0	P	1.0
	2570	-62.6	<-50.0	P	1.0
	1920	-57.4	<-50.0	P	1.0
	1980	-58.2	<-50.0	P	1.0
	2500	-57.6	<-50.0	P	1.0
	2570	-59.3	<-50.0	P	1.0

4.4 分析仪:TDD-LTE调制解调(Tx Modulation Demodulation:TDD-LTE)(RF1COM)

4.4.1 误差矢量幅度(Error Vector Magnitude)

调制 (Modulation)	载波频率 (C-Freq.) (MHz)		指示值 (Indicated) (%)	允许误差 (Limit) (%)	结论 (Pass/Fail)	U (k=2) (%)
QPSK	1900	RMS	0.40	± 1.00	P	0.58
	1920	RMS	0.66	± 1.00	P	0.58
	2570	RMS	0.31	± 1.00	P	0.58
	2620	RMS	0.45	± 1.00	P	0.58
	3400	RMS	0.57	± 1.00	P	0.58
16QAM	3800	RMS	0.33	± 1.00	P	0.58
	1900	RMS	0.51	± 1.00	P	0.58
	1920	RMS	0.25	± 1.00	P	0.58
	2570	RMS	0.46	± 1.00	P	0.58
	2620	RMS	0.42	± 1.00	P	0.58
64QAM	3400	RMS	0.47	± 1.00	P	0.58
	3800	RMS	0.48	± 1.00	P	0.58
	1900	RMS	0.54	± 1.00	P	0.58
	1920	RMS	0.43	± 1.00	P	0.58
	2570	RMS	0.45	± 1.00	P	0.58
	2620	RMS	0.59	± 1.00	P	0.58
	3400	RMS	0.60	± 1.00	P	0.58
	3800	RMS	0.48	± 1.00	P	0.58

4.4.2 幅度误差(Magnitude Error)

调制 (Modulation)	载波频率 (C-Freq.)		指示值 (Indicated)	U (k=2)
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	(MHz)	(%)	(%)
QPSK	1900	0.65	0.58
	1920	0.53	0.58
	2570	0.40	0.58
	2620	0.49	0.58
	3400	0.32	0.58
	3800	0.50	0.58
16QAM	1900	0.51	0.58
	1920	0.51	0.58
	2570	0.69	0.58
	2620	0.42	0.58
	3400	0.49	0.58
	3800	0.37	0.58
64QAM	1900	0.59	0.58
	1920	0.46	0.58
	2570	0.48	0.58
	2620	0.67	0.58
	3400	0.54	0.58
	3800	0.38	0.58

4.4.3 频率误差(Frequency Error)(Ref. Frequency Locked)

调制 (Modulation)	载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (Hz)	允许误差 (Limit) (Hz)	结论 (Pass/Fail)	U ($k=2$) (Hz)
QPSK	1900	-1.4	± 20.0	P	8.0
	1920	-0.7	± 20.0	P	8.0
	2570	-0.8	± 20.0	P	8.0
	2620	-1.5	± 20.0	P	8.0
	3400	-0.2	± 20.0	P	8.0
	3800	-2.8	± 20.0	P	8.0
16QAM	1900	-2.2	± 20.0	P	8.0
	1920	-1.8	± 20.0	P	8.0
	2570	-0.4	± 20.0	P	8.0
	2620	-2.2	± 20.0	P	8.0
	3400	-2.8	± 20.0	P	8.0

64QAM	3800	-3.3	± 20.0	P	8.0
	1900	-0.4	± 20.0	P	8.0
	1920	-2.0	± 20.0	P	8.0
	2570	-1.8	± 20.0	P	8.0
	2620	-2.2	± 20.0	P	8.0
	3400	-0.3	± 20.0	P	8.0
	3800	-2.2	± 20.0	P	8.0

4.4.4 相位误差(Phase Error)

调制 (Modulation)	载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (deg)	U (k=2) (deg)
QPSK	1900	0.47	0.58
	1920	0.39	0.58
	2570	0.42	0.58
	2620	0.33	0.58
	3400	0.45	0.58
	3800	0.48	0.58
16QAM	1900	0.46	0.58
	1920	0.60	0.58
	2570	0.47	0.58
	2620	0.47	0.58
	3400	0.52	0.58
	3800	0.51	0.58
64QAM	1900	0.62	0.58
	1920	0.46	0.58
	2570	0.58	0.58
	2620	0.44	0.58
	3400	0.48	0.58
	3800	0.41	0.58

4.4.5 IQ原点偏移(IQ Origin offset)

调制 (Modulation)	载波频率 (C-Freq.) (MHz)	指示值 (Indicated) (dB)	允许误差 (Limit) (dB)	结论 (Pass/Fail)	U (k=2) (dB)
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QPSK	1900	-61.2	<-50.0	P	1.0
	1920	-60.0	<-50.0	P	1.0
	2570	-60.9	<-50.0	P	1.0
	2620	-62.7	<-50.0	P	1.0
	3400	-62.4	<-50.0	P	1.0
	3800	-59.5	<-50.0	P	1.0
16QAM	1900	-62.3	<-50.0	P	1.0
	1920	-58.0	<-50.0	P	1.0
	2570	-61.4	<-50.0	P	1.0
	2620	-63.5	<-50.0	P	1.0
	3400	-61.5	<-50.0	P	1.0
	3800	-61.4	<-50.0	P	1.0
64QAM	1900	-62.5	<-50.0	P	1.0
	1920	-60.5	<-50.0	P	1.0
	2570	-61.8	<-50.0	P	1.0
	2620	-61.6	<-50.0	P	1.0
	3400	-60.4	<-50.0	P	1.0
	3800	-60.3	<-50.0	P	1.0

5 LTE 信令 (LTE Signaling)

5.1 LTE信令-FDD (LTE Signaling- FDD) (RF1COM)

5.1.1 误差矢量幅度(Error Vector Magnitude)

信号带宽 (Bandwidth) (MHz)	载波频率 (C-Freq.) (MHz)		标准值 (Reference) (%)	允许误差 (Limit) (%)		U (k=2) (%)
5	2110	RMS	0.33	<2.0	P	0.58
		Peak	1.39			0.58
	2169.9	RMS	0.32	<2.0	P	0.58
		Peak	1.17			0.58
10	2110	RMS	0.36	<2.0	P	0.58
		Peak	1.26			0.58
	2169.9	RMS	0.33	<2.0	P	0.58
		Peak	1.03			0.58
20	2110	RMS	0.42	<2.0	P	0.58
		Peak	1.62			0.58

2169.9	RMS	0.39	<2.0	P	0.58
	Peak	1.33			0.58

5.1.2 频率误差(Frequency Error)(Ref. Frequency Locked)

信号带宽 (Bandwidth) (MHz)	载波频率 (C-Freq.) (MHz)	标准值 (Reference) (Hz)	U (k=2) (Hz)
5	2110	-2.0	8.0
	2169.9	-4.3	8.0
10	2110	-2.8	8.0
	2169.9	-2.5	8.0
20	2110	-1.7	8.0
	2169.9	-4.1	8.0

5.1.3 IQ偏移(IQ Offset)

信号带宽 (Bandwidth) (MHz)	载波频率 (C-Freq.) (MHz)	标准值 (Reference) (dB)	U (k=2) (dB)
5	2110	-62.0	1.0
	2169.9	-61.8	1.0
10	2110	-61.4	1.0
	2169.9	-61.1	1.0
20	2110	-60.4	1.0
	2169.9	-61.1	1.0

5.2 LTE信令-TDD (LTE Signaling- TDD) (RF1COM)

5.2.1 误差矢量幅度(Error Vector Magnitude)

信号带宽 (Bandwidth) (MHz)	载波频率 (C-Freq.) (MHz)	标准值 (Reference) (%)	允许误差 (Limit) (%)	U (k=2) (%)
5	1900	RMS 0.36	<2.0	P 0.58
		Peak 1.05		0.58
	1919.9	RMS 0.34	<2.0	P 0.58
		Peak 1.03		0.58
10	1900	RMS 0.33	<2.0	P 0.58

20	1900	Peak	1.19			0.58
		1919.9	RMS	0.34	<2.0	P 0.58
		Peak	1.13			0.58
		RMS	0.43	<2.0	P	0.58
		Peak	1.40			0.58
		1919.9	RMS	0.39	<2.0	P 0.58
		Peak	1.24			0.58

5.2.2 频率误差(Frequency Error)(Ref. Frequency Locked)

信号带宽 (Bandwidth) (MHz)	载波频率 (C-Freq.) (MHz)	标准值 (Reference) (Hz)	U (k=2) (Hz)
5	1900	-1.8	8.0
	1919.9	-2.7	8.0
10	1900	-3.5	8.0
	1919.9	-4.1	8.0
20	1900	-2.7	8.0
	1919.9	-4.6	8.0

5.2.3 IQ偏移(IQ Offset)

信号带宽 (Bandwidth) (MHz)	载波频率 (C-Freq.) (MHz)	标准值 (Reference) (dB)	U (k=2) (dB)
5	1900	-62.1	1.0
	1919.9	-62.4	1.0
10	1900	-63.5	1.0
	1919.9	-62.1	1.0
20	1900	-62.3	1.0
	1919.9	-61.4	1.0

6 GSM 信令 (GSM Signaling) (RF1COM)

6.1 . 相位误差(Phase Error)

载波频率 (C-Freq.) (MHz)	标准值 (Reference) (deg)	允许误差 (Limit) (deg)	结论 (Pass/Fail)	U (k=2) (deg)
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869.2	RMS	0.20	<1.00	P	0.58
869.2	Peak	0.72	<4.00	P	0.58
935.2	RMS	0.26	<1.00	P	0.58
935.2	Peak	0.78	<4.00	P	0.58
1930.2	RMS	0.21	<1.00	P	0.58
1930.2	Peak	0.66	<4.00	P	0.58
1989.8	RMS	0.24	<1.00	P	0.58
1989.8	Peak	0.64	<4.00	P	0.58

6.2 . 频率误差(Frequency Error)(Ref. Frequency Locked)

载波频率 (C-Freq.) (MHz)	标准值 (Reference) (Hz)	U (k=2) (Hz)
869.2	-1.3	8.0
935.2	-4.4	8.0
1930.2	-1.8	8.0
1989.8	-1.8	8.0

6.3 . 误差矢量幅度(Error Vector Magnitude)

载波频率 (C-Freq.) (MHz)	标准值 (Reference) (%)	U (k=2) (%)
869.2	RMS 0.61	0.58
935.2	RMS 0.51	0.58
1930.2	RMS 0.54	0.58
1989.8	RMS 0.49	0.58

7 WCDMA信令(WCDMA Signaling) (RF1COM)

7.1 . 误差矢量幅度(Error Vector Magnitude)

载波频率 (C-Freq.) (MHz)	标准值 (Reference) (%)	允许误差 (Limit) (%)	结论 (Pass/Fail)	U (k=2) (%)
1932.5	RMS 0.80	<2.00	P	0.58
1987.6	RMS 0.81	<2.00	P	0.58
2112.4	RMS 0.83	<2.00	P	0.58

2167.6	RMS	0.81	<2.00	P	0.58
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7.2 . 波形质量因数(Rho)

载波频率 (C-Freq.) (MHz)	标准值 (Reference) ()	U (k=2) ()
1932.5	0.99994	0.0011
1987.6	0.99993	0.0011
2112.4	0.99993	0.0011
2167.6	0.99993	0.0011

7.3 . IQ偏移 (IQ Offset)

载波频率 (C-Freq.) (MHz)	标准值 (Reference) (dB)	U (k=2) (dB)
1932.5	-68.5	1.0
1987.6	-67.8	1.0
2112.4	-68.4	1.0
2167.6	-67.9	1.0

以下空白/No data hereafter