Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 1 of 47

TEST REPORT

Application No.:	SEWA2205000015RG
Applicant:	Quectel Wireless Solutions Co., Ltd.
Address of Applicant:	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
Manufacturer:	Quectel Wireless Solutions Co., Ltd.
Address of Manufacturer:	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
EUT Description:	5G Module
Model No.:	AG550Q-NA
Trade Mark:	Quectel
FCC ID:	XMR2022AG550QNA
Standards:	47 CFR Part 2
	47 CFR Part 22
	47 CFR Part 24
	47 CFR Part 27
	47 CFR Part 90
Date of Receipt:	2022/06/10
Date of Test:	2022/06/10 to 2022/07/11
Date of Issue:	2022/07/18
Test Result :	PASS *

* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:

Sun

Panta Sun Wireless Laboratory Manager



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.ags.com/en/Terms-and-Conditions.agx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.ags.com/en/Terms-and-Conditions/Terms-en-Document.agx. Attention is drawn to the limitation of liability, indewinfication and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are testined for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: Ch.Doccheck@ags.com

South of No. 6 Plant, No. 1, Runsheng Road, Stuchou Industrial Park, Stuchou Area, China (Jiangsu) Plot Free Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区湖胜路(号的/6月厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 2 of 47

1 Version

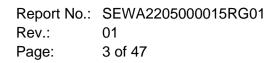
Revision Record					
Version	Chapter	Date	Modifier	Remark	
01		2022/07/18		Original	

Prepared By	Weller Liu) / Test Engineer
Checked By	(Well Wei) / Reviewer



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Stuchou Industrial Park, Stuchou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区湖胜路1号的6号厂房南部 邮编: 215000



Contents

1	Versio	on	2
2	Test S	Summary	5
	2.1	UMTS Band 5/LTE Band 5/26(824~849 MHz)	5
	2.2	GSM 1900/UMTS Band 2 /LTE Band 2 /25	6
	2.3	UMTS Band 4 /LTE Band 4 /66	7
	2.4	LTE Band 7/41	8
	2.5	LTE Band 12/17	10
	2.6	LTE Band 13	11
	2.7	LTE Band 14	12
	2.8	LTE Band 26(814~824 MHz)	14
	2.9	LTE Band 71	15
3	Gene	ral Information	16
	3.1	Details of Client	16
	3.2	Test Location	16
	3.3	Test Facility	16
	3.4	General Description of EUT	17
	3.5	Test Mode	18
	3.6	Test Environment	18
	3.7	Description of Support Units	18
	3.8	Technical Specification	19
	3.9	Test Frequencies	23
4	Descr	iption of Tests	32
	4.1	Conducted Output Power	32
	4.2	Effective (Isotropic) Radiated Power of Transmitter	33
	4.3	Occupied Bandwidth	34
	4.4	Band Edge at Antenna Terminals	35
	4.5	Spurious And Harmonic Emissions at Antenna Terminal	36
	4.6	Peak-Average Ratio	37
	4.7	Field Strength of Spurious Radiation	
	4.8	Frequency Stability / Temperature Variation	39
	4.9	Test Setups	



SG

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/an/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/an/Terms-and-Conditions.aspx</u> and, for electronic format documents, attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document, attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is avised that information contined hereon reflects the Company's solid regions indings at the lime of its intervention only and within the limits of Client's instructions, if any. The Company's solid regions build the transaction from exercising all their rights and obligations under the transaction from exercising all their rights and obligations under the transaction from exercising all their rights and obligations under the transaction from exercising all their rights and obligations under the transaction from exercising all their rights and obligations under the transaction from exercising all their rights and obligations way be prosecuted to the fullies extent in the law. Solid or of the company Ary unauthorized alteration, for ery or falsification of the company. Any unauthorized alteration, for ery or falsification of the company. Any unauthorized alteration, for ery or falsification of the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of the sting /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: <u>CN. Doccheck@egs.com</u>

South of No. 6 Plant, No. 1, Runsheng Road, Stuchou Industrial Park, Stuchou Area, Chine (Jiangsu) Pilot Free Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南部 邮编: 215000

			Report No.: Rev.:	SEWA2205000015RG01 01
			Page:	4 of 47
	4.9.1	Test Setup 1		40
	4.9.2	Test Setup 2		40
	4.9.3	Test Setup 3		41
	4.10 Tes	st Conditions		42
5	Main Test	nstruments		44
6	Measurem	ent Uncertainty		46
7	Appendixe	S		47



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is a dvised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, Any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Indushial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 5 of 47

2 Test Summary

SG

2.1 UMTS Band 5/LTE Band 5/26(824~849 MHz)

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913(a)(5)	ERP ≤ 7 W	Section 1 of Appendix B.2&5&12	Pass
Peak-Average Ratio	§22.913(d)	Limit≤13 dB	Section 2 of Appendix B.2&5&12	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B.2&5&12	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B.2&5&12	Pass
Band Edges Compliance	§2.1051, §22.917(a)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B.2&5&12	Pass
Spurious Emission at Antenna Terminals	§2.1051, §22.917(a)	FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges.	Section 6 of Appendix B.2&5&12	Pass
Field Strength of Spurious Radiation	§2.1053, §22.917(a)	FCC: ≤ -13 dBm/100 kHz.	Section 7 of Appendix B.2&5&12	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(1) §22.355	≤ ±2.5ppm.	Section 8 of Appendix B.2&5&12	Pass



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions,aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions</u>, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawfull and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) lested and such sample(s) are retained for 30 days only. Attention: <u>Deteck the authenticity of testing finspection report & certificate, please contact us at telephone</u>: (86-755) 8307 1443,

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pitot Free Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南部 邮编: 215000 contact us at telephone: (86-755) 8307 1443, t (86-512) 62992980 www.sgsgroup.com.cn

t (86-512) 62992980

Member of the SGS Group (SGS SA)

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 6 of 47

2.2 GSM 1900/UMTS Band 2 /LTE Band 2 /25

S

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §24.232(c)	EIRP ≤ 2 W	Section 1 of Appendix B.1&2&3&11	Pass
Peak-Average Ratio	§24.232(d)	Limit≤13 dB	Section 2 of Appendix B.1&2&3&11	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B.1&2&3&11	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B.1&2&3&11	Pass
Band Edges Compliance	§2.1051, §24.238(a)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B.1&2&3&11	Pass
Spurious Emission at Antenna Terminals	§2.1051, §24.238(a)	 ≤ -13 dBm/1 MHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges. 	Section 6 of Appendix B.1&2&3&11	Pass
Field Strength of Spurious Radiation	§2.1053, §24.238(a)	≤ -13 dBm/1 MHz.	Section 7 of Appendix B.1&2&3&11	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(1) §24.235	Within authorized bands of operation/frequency block.	Section 8 of Appendix B.1&2&3&11	Pass



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Indushial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn

t (86-512) 62992980

Member of the SGS Group (SGS SA)

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 7 of 47

2.3 UMTS Band 4 /LTE Band 4 /66

SG

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(d)(4)	EIRP ≤ 1 W	Section 1 of Appendix B.2&4&15	Pass
Peak-Average Ratio	§27.50(d)(5)	Limit≤13 dB	Section 2 of Appendix B.2&4&15	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B.2&4&15	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B.2&4&15	Pass
Band Edges Compliance	§2.1051, §27.53(h)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B.2&4&15	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(h)	≤ -13 dBm/1 MHz, from 9 kHz to 10 th harmonics but outside authorized operating frequency ranges.	Section 6 of Appendix B.2&4&15	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(h)	≤ -13 dBm/1 MHz.	Section 7 of Appendix B.2&4&15	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(1) §27.54	Within authorized bands of operation/frequency block.	Section 8 of Appendix B.2&4&15	Pass



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Indushial Park, Suzhou Area, China (Jiangsu) Pilot Fiee Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

Report No.: SEWA2205000015RG01 Rev.: 01 Page: 8 of 47

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(h)(2)	EIRP ≤ 2W	Section 1 of Appendix B.6&14	Pass
Peak-Average Ratio		≤13 dB	Section 2 of Appendix B.6&14	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B.6&14	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B.6&14	Pass
Band Edges Compliance	§2.1051, §27.53(m4)	For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as de ned in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz.	Section 5 of Appendix B.6&14	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(m)	P kHz 9 5 MHz XMHz 10 th harmonics X=Max {6MHz, EBW}	Section 6 of Appendix B.6&14	Pass

2.4 LTE Band 7/41



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号約6号厂房南部 邮编: 215000

t (86-512) 62992980 www.sasaroup.com.cn

t (86-512) 62992980

Member of the SGS Group (SGS SA)

		Report No.: Rev.: Page:	SEWA2205000015 01 9 of 47	5RG01
Field Strength of Spurious Radiation	§2.1053, §27.53(m)	P kHz % 5 MHz XMHz 10th harmonics X=Max {6MHz, EBW}	Section 7 of Appendix B.6&14	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(1)§27.54	Within authorized bands of operation/frequency block.	Section 8 of Appendix B.6&14	Pass



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-eDocument.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Indushial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 10 of 47

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046 §27.50(c)(10)	ERP ≤ 3 W.	Section 1 of Appendix B.7&10	Pass
Peak-Average Ratio		Limit≤13 dB	Section 2 of Appendix B.7&10	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B.7&10	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B.7&10	Pass
Band Edges Compliance	§2.1051, §27.53(g)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B.7&10	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(g)	FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10 th harmonics but outside authorized operating frequency ranges.	Section 6 of Appendix B.7&10	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(g)	FCC: ≤ -13 dBm/100 kHz.	Section 7 of Appendix B.7&10	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(1) §27.54	Within authorized bands of operation/frequency block.	Section 8 of Appendix B.7&10	Pass

2.5 LTE Band 12/17

S



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Stuchou Industrial Park, Stuchou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区湖胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

Report No.: SEWA2205000015RG01 Rev.: 01 Page: 11 of 47

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(b)(10)	ERP ≤ 3 W.	Section 1 of Appendix B.8	Pass
Peak-Average Ratio		Limit≤13 dB	Section 2 of Appendix B.8	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B.8	Pass
Bandwidth	§2.1049,	OBW: No limit. EBW: No limit.	Section 4 of Appendix B.8	Pass
Band Edges Compliance	§2.1051, §27.53(c)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B.8	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(c) §27.53(f)	 ≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges. On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations. For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. 	Section 6 of Appendix B.8	Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(c) §27.53(f)	FCC: ≤ -13 dBm/100 kHz. For operations in the 746-758 MHz, 775- 788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.	Section 7 of Appendix B.8	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(1) §27.54	Within authorized bands of operation/frequency block.	Section 8 of Appendix B.8	Pass

2.6 LTE Band 13

S



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号約6号厂房南部 邮编: 215000

t (86-512) 62992980 www.sasaroup.com.cn

t (86-512) 62992980

Member of the SGS Group (SGS SA)

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 12 of 47

2.7 LTE Band 14

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046 §90.542(c)	ERP ≤ 100 W	Section 1 of Appendix B.9	Pass
Peak-Average Ratio		Limit≤13 dB	Section 2 of Appendix B.9	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B.9	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B.9	Pass
Emission Mask	§2.1051 §90.210(n)	Transmitters designed for operation under this part on frequencies other than listed in this section must meet the emission mask requirements of Emission Mask B. Equipment operating under this part on frequencies allocated to but shared with the Federal Government, must meet the applicable Federal Government technical standards (b) Emission Mask B. For transmitters that are equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows: (1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB.(2) On any frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.	Section 5 of Appendix B.9	Pass
Band Edges Compliance	§2.1051 §90.543(e)(2)(3)	 (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations.(2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile 	Section 6 of Appendix B.9	Pass



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions/sapx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/terms-en-Document.aspx. Attention is drawn to the limitation of liability, indeminification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document to escope in full, without prior written approval of the Company. Any unauthorized alteration, forgery or faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755)83071443, or email: (N_Doccheck@ags.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jangsu) Plot Free Trade Zone 215000 中国 - 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区润脏路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

		Report No.: S	EWA220500001	5RG01
		Rev.: 0	1	
_		Page: 13	3 of 47	
		and portable stations.(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB.		
Spurious Emission at Antenna Terminals	§2.1051, §90.543(c) §90.543(f)	 FCC: ≤ -13 dBm/100 kHz, from 9 kHz to 10th harmonics but outside authorized operating frequency ranges. For operations in the 758–775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559– 1610 MHz shall be limited to -70 dBW/ MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. 	Section 7 of Appendix B.9	Pass
Field Strength of Spurious Radiation	§2.1053, §90.543(c) §90.543(f)	FCC: ≤ -13 dBm/100 kHz. For operations in the 758–775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559– 1610 MHz shall be limited to -70 dBW/ MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.	Section 8 of Appendix B.9	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(1) §90.213	Within authorized bands of operation/frequency block.	Section 9 of Appendix B.9	Pass



SG

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-eDocument.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Indushial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

Report No.: SEWA2205000015RG01 Rev.: 01 Page: 14 of 47

2.8 LTE Band 26(814~824 MHz)

SG

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Transmitter Conducted Power Output	§2.1046, §90.635(b)	< 100 W.	Section 1 of Appendix B.13	Pass
Peak-Average Ratio		Limit≤13 dB	Section 2 of Appendix B.13	Pass
Modulation Characteristics	§2.1047	Digital modulation	Section 3 of Appendix B.13	Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.	Section 4 of Appendix B.13	Pass
Emission Mask	§2.1051 § 90.691(a)	For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50+10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.	Section 5 of Appendix B.13	Pass
Spurious Emission at Antenna Terminals	§2.1051, §90.691	< 43 + 10Log10(P[Watts]) for all out- of-band emissions	Section 6 of Appendix B.13	Pass
Field Strength of Spurious Radiation	§2.1053, §90.691	< 43 + 10Log10(P[Watts]) for all out- of-band emissions	Section 7 of Appendix B.13	Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(1) §90.213	Within authorized bands of operation/frequency block.	Section 8 of Appendix B.13	Pass



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) testing linspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

t (86-512) 62992980

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 15 of 47

2.9 LTE Band 71

Test Item	FCC Rule No.	Paquiroments	Test Result	Verdict	
Effective		Requirements	I ESI RESUIL	veruict	
(Isotropic)	§2.1046	ERP ≤ 3 W	Section 1 of	Pass	
Radiated Power Output Data	§27.50(c)(10)		Appendix B.16		
Peak-Average Ratio		Limit≤13 dB	Section 2 of Appendix B.16	Pass	
Modulation	§2.1047	Digital modulation	Section 3 of	Pass	
Characteristics	-	, C	Appendix B.16		
Bandwidth	§2.1049	OBW: No limit.	Section 4 of	Pass	
	0	EBW: No limit.	Appendix B.16		
Band Edges Compliance	§2.1051, §27.53(g)	≤ -13 dBm/1%*EBW, in 1 MHz bands immediately outside and adjacent to the frequency block.	Section 5 of Appendix B.16	Pass	
Spurious Emission at Antenna Terminals	§2.1051, §27.53(g)	≤ -13 dBm/1 MHz, from 9 kHz to 10 th harmonics but outside authorized operating frequency ranges.	Section 6 of Appendix B.16	Pass	
Field Strength of Spurious Radiation	§2.1053, §27.53(g)	≤ -13 dBm/1 MHz.	Section 7 of Appendix B.16	Pass	
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(1) §27.54	within the authorized bands of operation.	Section 8 of Appendix B.16	Pass	



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) testing linspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Stuchou Industrial Park, Stuchou Area, China (Jiangsu) Plot Free Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区调胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 16 of 47

3 General Information

3.1 Details of Client

Applicant:	Quectel Wireless Solutions Co., Ltd.		
Address of Applicant:	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233		
Manufacturer:	Quectel Wireless Solutions Co., Ltd.		
Address of Manufacturer:	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233		

3.2 Test Location

Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post code:	215000
Test engineer:	Weller Liu, Tizzy Song

3.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

A2LA (Certificate No. 6336.01)
SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.
Innovation, Science and Economic Development Canada
SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.
CAB identifier: CN0120.
IC#: 27594.
FCC –Designation Number: CN1312
SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an accredited testing laboratory.
Designation Number: CN1312.
Test Firm Registration Number: 717327



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticify of testing finspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

South of No. 6 Plant, No. 1, Runsheng Road, Stuchou Industrial Park, Stuchou Area, China (Jiangsu) Pilot Free Trade Zone 2150000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区湖胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn

t (86-512) 62992980

Report No.: SEWA2205000015RG01 Rev.: 01 Page: 17 of 47

3.4 General Description of EUT

	•							
EUT Description:	5G Module							
Model No.:	AG550Q-NA							
Trade Mark:	Quectel	Quectel						
Hardware Version:	R1.0							
Software Version:	AG550QNAABR03A	403M80	G_OCPU					
IMEI:	860279050015857							
Antenna Type:	External Antenna							
	Provided by clien	t						
	GSM1900:	0dBi						
	WCDMA Band II:	0dBi		WCDMA Bar	nd IV:	0.3dBi		
	WCDMA Band V:	-0.42dBi						
	LTE Band 2:	0dBi		LTE Band 4:		0.3dBi		
Antenna Gain*:	LTE Band 5:	-0.42dBi		LTE Band 7:		0.42dBi		
	LTE Band 12:	0.97d	Bi	LTE Band 13:		1.45dBi		
	LTE Band 14:	1.18d	Bi	LTE Band 17:		0.97dBi		
	LTE Band 25:	0.36d	Bi	LTE Band 26:		-0.42dBi		
	LTE Band 41:	1.58d	Bi	LTE Band 66:		0.39dBi		
	LTE Band 71:	0.24d	Bi					
DE Cables	0.8dB(Below 1GHz)		1.0dB(1.0~2	.4GHz)	1.2dB	3(2.4~3.4GHz)		
RF Cable:	1.5dB(Above 3.4GF	łz)						

Note: *Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, SGS is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion. Remark:

As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions,aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Documentaspx</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawfull and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) lested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing/Inspection reports & certificate, please contact us at telephone: (66-755) 83071443. ne: (86-755) 8307 1443.

South of No. 6 Plant, No. 1, Runsheno Road, Suzhou Industrial Park, Suzhou Area, China (Jianosu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南部 邮编: 215000 t (86-512) 62992980 www.sasaroup.com.cn sgs.china@sgs.com

t (86-512) 62992980

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 18 of 47

3.5 Test Mode

Test Mode	Test Modes Description			
GSM/TM1	GSM system, GSM/GPRS, GMSK modulation			
GSM/TM2	GSM system, EGPRS, 8PSK modulation			
UMTS/TM1	UMTS system, WCDMA, QPSK modulation			
LTE/TM1	LTE system, QPSK modulation			
LTE/TM2	LTE system, 16QAM modulation			
LTE/TM3	LTE system, 64QAM modulation			
Remark: The test mode(s) are selected according to relevant radio technology specifications.				

3.6 Test Environment

Environment Parameter	101.0 kPa Selected Values During Tests					
Relative Humidity	44-60	0 % RH Ambient				
Value	Temperature(°C)	Voltage(V)				
NTNV	22~25	3.8				
LTLV	-30	3.3				
LTHV	-30	4.3				
HTLV	50	3.3				
HTHV	50	4.3				
•	ow Extreme Test Voltage ow Extreme Test Temperature	HV: High Extreme Test Voltage HT: High Extreme Test Temperature				

3.7 Description of Support Units

Description	Manufacturer	Model No.					
Mother board	Quectel	V2X&5G-EVB					
Remark: all above the information of table are provided by client.							



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) testing linspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Indushial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn

t (86-512) 62992980

Member of the SGS Group (SGS SA)

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 19 of 47

3.8 Technical Specification

Characteristics	aracteristics Description							
Radio System Type		🛛 имтѕ	ſ		:			
	Band		TX			RX		
	GSM1900			1850 to 1910 MHz			o 1990 MHz	
	UMTS Band II				10 MHz		o 1990 MHz	
					55 MHz		o 2155 MHz	
	UMTS Band V			to 849			894 MHz	
	LTE Band 2				10 MHz		o 1990 MHz	
	LTE Band 4				55 MHz		o 2155 MHz	
	LTE Band 5			to 849			894 MHz	
	LTE Band 7				70 MHz		o 2690 MHz	
Supported Frequency Range	LTE Band 12			to 716			746 MHz	
	LTE Band 13			' to 787		746 to	756 MHz	
	LTE Band 14		788 to 798 MHz		758 to	758 to 768 MHz		
	LTE Band 17		704 to 716 MHz		734 to	734 to 746 MHz		
	LTE Band 25		1850 to 1915MHz		1930 t	1930 to 1995 MHz		
	LTE Band 26		814 to 824MHz		859 to	859 to 869 MHz		
	(814 to 824 MHz)							
	LTE Band 26		824 to 849 MHz		869 to	894 MHz		
	(824 to 849 MHz)		2496 to 2690MHz					
	LTE Band 41						2496 to 2690MHz	
	LTE Band 66				80 MHz		2110 to 2200 MHz	
	LTE Band 71			to 698	MHz	617 to	652 MHz	
	GSM system:		⊠0.2 MHz					
	UMTS system:		⊠5 MHz					
	LTE Band 2		⊠1.	4 MHz	⊠3 MHz	⊠5 MHz	⊠10 MHz	
			⊠15	5 MHz	20 MHz			
Supported Channel Bandwidth	LTE Band 4		⊠1.	4 MHz	⊠3 MHz	⊠5 MHz	⊠10 MHz	
Supported Charmer Bandwidth			⊠15	5 MHz	20 MHz			
	LTE Band 5		⊠1.	4 MHz	🖂 3 MHz	⊠5 MHz	⊠10 MHz	
	LTE Band 7		⊠5	MHz	⊠10 MHz	⊠15 MH	z 🛛 20 MHz	
	LTE Band 12		⊠1.	4 MHz	🖂 3 MHz	⊠5 MHz	⊠10 MHz	
	LTE Band 13		⊠5	MHz	🖾 10 MHz			



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document to excent parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullees textent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755)83071443, or email: C.N.Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Indushial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

			Repo Rev.: Page		01	VA2205000 of 47	015RG01
	LTE Band 14		⊠5 MHz	⊠10 M	/Hz		
	LTE Band 17		⊠5 MHz	⊠10 M	/Hz		
	LTE Band 25		⊠1.4 MHz ⊠15 MHz	⊠3 MH ⊠20 M		⊠5 MHz	⊠10 MHz
	LTE Band 26(814-824	\ \	⊠13 10112 ⊠1.4 MHz			⊠5 MHz	⊠10 MHz
)	⊠1.4 MHz			⊠5 MHz	⊠10 MHz
	LTE Band 26(824-849)	⊠ 1.4 MHz		12		
	LTE Band41		⊠5 MHz	⊠10 N	/Hz	🛛 15 MHz	⊠20 MHz
	LTE Band66		⊠1.4 MHz	⊠3 Mŀ	Ηz	⊠5 MHz	⊠10 MHz
			⊠15MHz	⊠20N	ЛНz		
	LTE Band71		⊠5MHz	⊠10N	ЛНz	⊠15MHz	⊠20MHz
	Note: WCDMA suppor worst case was tested						out only the
Characteristics	Description						
	GSM:	GMSK 8PSK					
	GSM1900	246KGXW 244KG7W					
	UMTS:	QPSK					
	Band II	4M16F9W					
	Band IV	4M	14F9W				
	Band V	4M	15F9W				
	E-UTRA:	QP	SK 16	6QAM	6	64QAM	
Designation of Emissions		1M	08G7D 11	M09W7E) <i>`</i>	1M09W7D	
(Remark: the necessary		2M	70G7D 21	M69W7[D 2	2M69W7D	
bandwidth of which is the worst value from the	LTE Band 2	4M	47G7D 41	M47W7[⊃ ⊿	4M48W7D	
measured occupied		8M	94G7D 81	M92W7[) (3M92W7D	
bandwidths for each type of channel bandwidth		13N	//5G7D 13	3M5W7E) ć	13M4W7D	
configuration.)		17	/I9G7D 17	7M9W7[) <i>`</i>	17M9W7D	
		1M	09G7D 11	M09W7E) <i>`</i>	1M09W7D	
		2M	69G7D 21	M69W7[2	2M69W7D	
	LTE Band 4	4M	47G7D 41	M47W7[2	4M48W7D	
		8M	93G7D 8I	M91W7E	5 C	3M92W7D	
		13N	//5G7D 13	3M4W7E	<u>`</u> C	13M4W7D	
		17	/I9G7D 18	8M0W7E	<u>`</u> C	17M9W7D	
	LTE Band 5	1M	09G7D 1I	M09W7E	` כ	1M09W7D	



SG.

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-eDocument.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its Intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forger or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are tested for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@ss.com

South of No. 6 Plant, No. 1, Runsheng Road, Suchou Industrial Park, Suchou Area, China (Jiangsu) Plick Fee Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区湖胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

		Re	eport No.: ev.: age:	SEWA2205000015RG01 01 21 of 47
		2M70G7D	2M69W7[
		4M47G7D	4M47W7[D 4M48W7D
		8M93G7D	8M91W7	D 8M92W7D
		4M47G7D	4M47W7[D 4M48W7D
		8M93G7D	8M91W7	D 8M92W7D
	LTE Band 7	13M5G7D	13M5W7[D 13M4W7D
		17M9G7D	18M0W7[D 17M9W7D
		1M08G7D	1M09W7[D 1M10W7D
		2M69G7D	2M69W7[D 2M69W7D
	LTE Band 12	4M47G7D	4M47W7[D 4M48W7D
		8M93G7D	8M91W7[D 8M92W7D
	LTE Dond12	4M47G7D	4M47W7[D 4M48W7D
	LTE Band13	8M92G7D	8M89W7[D 8M90W7D
	LTE Dond 14	4M47G7D	4M47W7[D 4M48W7D
	LTE Band 14	8M94G7D	8M94W7[D 8M94W7D
	LTE Band 17	4M47G7D	4M47W7[D 4M48W7D
		8M94G7D	8M91W7[D 8M93W7D
		1M09G7D	1M09W7[D 1M09W7D
		2M69G7D	2M69W7[D 2M69W7D
		4M47G7D	4M47W7[D 4M48W7D
	LTE Band 25	8M92G7D	8M92W7[D 8M92W7D
		13M5G7D	13M4W7[D 13M5W7D
		17M9G7D	17M9W7[D 17M9W7D
		1M08G7D	1M09W7[D 1M09W7D
	LTE Band 26	2M69G7D	2M69W7	D 2M69W7D
	(814-824)	4M47G7D	4M47W7[D 4M47W7D
		8M90G7D	8M90W7[D 8M91W7D
		1M09G7D	1M09W7[D 1M10W7D
	LTE Dond OC	2M70G7D	2M69W7[D 2M69W7D
	LTE Band 26 (824-849)	4M47G7D	4M47W7[D 4M48W7D
		8M95G7D	8M91W7[D 8M93W7D
		13M5G7D	13M5W7[D 13M4W7D
	LTE Band 41	4M48G7D	4M47W7[D 4M48W7D
		8M91G7D	8M92W7[D 8M92W7D



SG:

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-eDocument.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) testend and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@ss.com.

South of No.6 Plant, No. 1, Runsheng Road, Suzhou Indushial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号的6号厂房南部 邮编: 215000
 t (86–512) 62992980
 www.sgsgroup.com.cn

 t (86–512) 62992980
 sgs.china@sgs.com

			Report No.: Rev.: Page:	SEWA2205000015RG01 01 22 of 47
		13M5G7D		D 13M4W7D
		17M9G7D) 17M8W7	D 17M8W7D
		1M09G7D	1M09W7	D 1M09W7D
	LTE Band 66	2M70G7D	2M69W7	D 2M69W7D
		4M47G7D	4M47W7	D 4M48W7D
		8M93G7D	8M91W7	D 8M93W7D
		13M5G7D) 13M4W7	D 13M4W7D
	17	17M9G7D	0 17M9W7	D 17M9W7D
		4M47G7D	4M47W7	D 4M48W7D
	LTE Band 71	8M92G7D	8M93W7	D 8M93W7D
	-	13M5G7D) 13M4W7	D 13M4W7D
		17M9G7D	0 17M9W7	D 17M9W7D



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is a dvised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, Any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Indushial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

Report No.: SEWA2205000015RG01 Rev.: 01 Page: 23 of 47

3.9 Test Frequencies

Test Mode	TX / RX	RF Channel				
		Low (L)	Middle (M)	High (H)		
	ТХ	Channel 512	Channel 661	Channel 810		
GSM1900		1850.2MHz	1880.0 MHz	1909.8 MHz		
GSIM1900	RX	Channel 512	Channel 661	Channel 810		
		1930.2 MHz	1960.0 MHz	1989.8 MHz		

Test Mode	TX / RX	RF Channel				
Test Mode		Low (L)	Middle (M)	High (H)		
	ТХ	Channel 9262	Channel 9400	Channel 9538		
		1852.4 MHz	1880.0 MHz	1907.6 MHz		
WCDMA Band II	RX	Channel 9662	Channel 9800	Channel 9938		
		1932.4 MHz	1960.0 MHz	1987.6 MHz		

Test Mode	TX / RX	RF Channel				
Test Mode		Low (L)	Middle (M)	High (H)		
		Channel 1312	Channel 1413	Channel 1513		
WCDMA Band IV	ТΧ	1712.4MHz	1732.6 MHz	1752.6 MHz		
	DV	Channel 1537	Channel 1638	Channel 1738		
	RX	2112.4 MHz	2132.6 MHz	2152.6 MHz		

Test Mode	TX / RX	RF Channel				
		Low (L)	Middle (M)	High (H)		
	ТХ	Channel 4132	Channel 4182	Channel 4233		
		826.4MHz	836.4 MHz	846.6 MHz		
WCDMA Band V	DV	Channel 4357	Channel 4407	Channel 4458		
	RX	871.4 MHz	881.4 MHz	891.6 MHz		



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein, Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction document. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) are retained for 30 days only. Attention: <u>Do check the authenticity of testing finspection report & certificate, please contact us as telephone</u>: (86-755) 8307 1443, ne: (86-755) 8307 1443, of and the CHARLES Laboration block the CHARLES Laboration House Action (Jangsu) Plot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州上空間区消胜路1号的6号厂房南部 解集: 215000 t (86–512) 62992980 www.sgsgroup.com.cn

Member of the SGS Group (SGS SA)

sgs.china@sgs.com

t (86-512) 62992980

Report No.: SEWA2205000015RG01 Rev.: 01 Page: 24 of 47

Test Mede	Developidate			RF Channel	
Test Mode	Bandwidth	TX / RX	Low (L)	Middle (M)	High (H)
			Channel 18607	Channel 18900	Channel 19193
		ТХ	1850.7 MHz	1880 MHz	1909.3 MHz
	1.4MHz	RX	Channel 607	Channel 900	Channel 1193
		КЛ	1930.7 MHz	1960 MHz	1989.3 MHz
			Channel 18615	Channel 18900	Channel 19185
		TX	1851.5 MHz	1880 MHz	1908.5 MHz
	3MHz	RX	Channel 615	Channel 900	Channel 1185
		КЛ	1931.5 MHz	1960 MHz	1988.5 MHz
	5MHz		Channel 18625	Channel 18900	Channel 19175
		TX	1852.5 MHz	1880 MHz	1907.5 MHz
		RX	Channel 625	Channel 900	Channel1175
LTE Band 2			1932.5 MHz	1960 MHz	1987.5 MHz
LTE Dallu Z		тх	Channel 18650	Channel 18900	Channel 19150
			1855 MHz	1880 MHz	1905 MHz
	10MHz	RX	Channel 650	Channel 900	Channel 1150
			1935 MHz	1960 MHz	1985 MHz
			Channel 18675	Channel 18900	Channel 19125
		ТХ	1857.5 MHz	1880 MHz	1902.5 MHz
	15MHz	RX	Channel 675	Channel 900	Channel 1125
		КЛ	1937.5 MHz	1960 MHz	1982.5 MHz
			Channel 18700	Channel 18900	Channel 19100
		ТХ	1860 MHz	1880 MHz	1900 MHz
	20MHz	RX	Channel 700	Channel 900	Channel 1100
		ĸ٨	1940 MHz	1960 MHz	1980 MHz



S

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions. Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indewnification and lurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company any unauthorized alteration, forger or faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are tested for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CM.Doccheck@sgs.com t (86–512) 62992980 www.sgsgroup.com.cn

oreman: <u>CR.Doceneck.geogs.com</u> Sound Yuo. Perku Ku, Tanubeng Kashubu Madatel Park, Suhou.Area, Chine (Jangsu) Piki Fee Trade Zone 中国・苏州・中国(江苏)自由贸易试验区苏州/F区苏州工业国区消胜路1号的6月5月南部 邮编: 215000 t (86-512) 62992980

			Report	No.: SEWA220	5000015RG01
			Rev.:	01	
			Page:	25 of 47	
Tarihada	Dec. 1. 1.10	TV / DV	<u> </u>	RF Channel	
Test Mode	Bandwidth	TX/RX	Low (L)	Middle (M)	High (H)
			Channel 19957	Channel 20175	Channel 20393
		ТХ	1710.7 MHz	1732.5 MHz	1754.3 MHz
	1.4MHz	RX	Channel 1975	Channel 2175	Channel 2375
		ΓΛ	2112.5 MHz	2132.5MHz	2152.5 MHz
			Channel 19965	Channel 20175	Channel 20385
		ТХ	1711.5 MHz	1732.5 MHz	1753.5 MHz
	3MHz	RX	Channel 2000	Channel 2175	Channel 2350
			2115 MHz	2132.5MHz	2150 MHz
	5MHz	ТΧ	Channel 19975	Channel 20175	Channel 20375
			1712.5 MHz	1732.5 MHz	1752.5 MHz
		RX	Channel 1975	Channel 2175	Channel 2375
			2112.5 MHz	2132.5MHz	2152.5 MHz
LTE Band 4		ТΧ	Channel 20000	Channel 20175	Channel 20350
			1715 MHz	1732.5 MHz	1750 MHz
	10MHz	RX	Channel 2000	Channel 2175	Channel 2350
			2115 MHz	2132.5MHz	2150 MHz
			Channel 20025	Channel 20175	Channel 20325
		ТХ	1717.5 MHz	1732.5 MHz	1747.5 MHz
	15MHz	RX	Channel 2025	Channel 2175	Channel 2325
			2117.5 MHz	2132.5MHz	2147.5 MHz
			Channel 20050	Channel 20175	Channel 20300
		TX	1720 MHz	1732.5 MHz	1745 MHz
	20MHz	RX	Channel 2050	Channel 2175	Channel 2300
		۲۸	2120 MHz	2132.5MHz	2145 MHz

Toot Mada	Donoluidth		RF Channel			
Test Mode	Bandwidth	TX / RX	Low (L)	Middle (M)	High (H)	
			Channel 20407	Channel 20525	Channel 20643	
		TX	824.7 MHz	836.5 MHz	848.3 MHz	
	1.4MHz	RX	Channel 2407	Channel 2525	Channel 2643	
		ΓΛ	869.7 MHz	881.5 MHz	893.3 MHz	
			Channel 20415	Channel 20525	Channel 20635	
	3MHz	TX	825.5 MHz	836.5 MHz	847.5 MHz	
		RX	Channel 2415	Channel 2525	Channel 2635	
			870.5 MHz	881.5 MHz	892.5 MHz	
LTE Band 5		тх	Channel 20425	Channel 20525	Channel 20625	
			826.5 MHz	836.5 MHz	846.5 MHz	
	5MHz	RX	Channel 2425	Channel 2525	Channel 2625	
			871.5 MHz	881.5 MHz	891.5 MHz	
			Channel 20450	Channel 20525	Channel 20600	
		TX	829 MHz	836.5 MHz	844 MHz	
	10MHz	RX	Channel 2450	Channel 2525	Channel 2600	
		ΓΛ	874 MHz	881.5 MHz	889 MHz	



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.appx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.Terms-e-Document.appx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 83071443, or email: CN_Doccheck@gs.com

or entite: Concentrate Conce

t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

			Report	No.: SEWA220	5000015RG01
			Rev.:	01	
			Page:	26 of 47	
Test Mode	Bandwidth	TX / RX		RF Channel	
Test Mode	Danuwiuun		Low (L)	Middle (M)	High (H)
			Channel 20775	Channel 21100	Channel 21425
		TX	2502.5 MHz	2535 MHz	2567.5 MHz
	5MHz	RX	Channel 2775	Channel 3100	Channel 5825
		ΓΛ	2622.5 MHz	2655 MHz	2687.5 MHz
	10MHz	ТΧ	Channel 20800	Channel 21100	Channel 21400
			2505 MHz	2535 MHz	2565 MHz
		RX	Channel 2800	Channel 3100	Channel 3400
			2625 MHz	2655 MHz	2685 MHz
LTE Band 7		ТХ	Channel 20825	Channel 21100	Channel 21375
			2507.5 MHz	2535 MHz	2562.5 MHz
	15MHz	DV	Channel 2825	Channel 3100	Channel 3375
		RX	2627.5 MHz	2655 MHz	2682.5 MHz
			Channel 20850	Channel 21100	Channel 21350
		TX	2510 MHz	2535 MHz	2560 MHz
	20MHz	DV	Channel 2850	Channel 3100	Channel 3350
		RX	2630 MHz	2655 MHz	2680 MHz

Test Made	Dowely vielth		RF Channel			
Test Mode	Bandwidth	TX / RX	Low (L)	Middle (M)	High (H)	
			Channel 23017	Channel 23095	Channel 23173	
		TX	699.7 MHz	707.5 MHz	715.3 MHz	
	1.4MHz	RX	Channel 5017	Channel 5095	Channel 5173	
		КЛ	729.7 MHz	737.5 MHz	745.3 MHz	
			Channel 23025	Channel 23095	Channel 23165	
	3MHz	TX	700.5 MHz	707.5 MHz	714.5 MHz	
		RX	Channel 5025	Channel 5095	Channel 5165	
			730.5 MHz	737.5 MHz	744.5 MHz	
LTE Band 12		тх	Channel 23035	Channel 23095	Channel 23155	
			701.5 MHz	707.5 MHz	713.5 MHz	
	5MHz	RX	Channel 5035	Channel 5095	Channel 5155	
			731.5 MHz	737.5 MHz	743.5 MHz	
			Channel 23060	Channel 23095	Channel 23130	
		TX	704 MHz	707.5 MHz	711 MHz	
	10MHz	RX	Channel 5060	Channel 5095	Channel 5130	
		ΓA	734 MHz	737.5 MHz	741 MHz	



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sga.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sga.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <a href="http://www.sga.com/en/Terms-and-Conditions.re t (86–512) 62992980 www.sgsgroup.com.cn

or unit Conflored Technology Station Industral Park, Suchou Area, Chine (Jangsu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州广区苏州工业国区消胜路1号的6号厂房南部 邮编: 215000

			Report Rev.:	No.: SEWA220	5000015RG01
			Page:	27 of 47	
			r age.	RF Channel	
Test Mode	Bandwidth	TX / RX	Low (L)	Middle (M)	High (H)
			Channel 23025	Channel 23230	Channel 23255
		TX	779.5 MHz	782 MHz	784.5 MHz
	5MHz	DV	Channel 5205	Channel 5230	Channel 5255
		RX	748.5 MHz	751 MHz	753.5 MHz
LTE Band 13			Channel 23230	Channel 23230	Channel 23230
		TX	782 MHz	782 MHz	782 MHz
	10MHz	RX	Channel 5230	Channel 5230	Channel 5230
		КЛ	751 MHz	751 MHz	751 MHz
Test Made	Dondwidth			RF Channel	
Test Mode	Bandwidth	TX/RX	Low (L)	Middle (M)	High (H)
	5MHz	ТΧ	Channel 23305	Channel 23330	Channel 23355
			790.5 MHz	793 MHz	795.5 MHz
		RX	Channel 5305	Channel 5330	Channel 5355
LTE Band 14			760.5 MHz	763 MHz	765.5 MHz
			Channel 23330	Channel 23330	Channel 23330
		TX	793MHz	793 MHz	793 MHz
	10MHz	RX	Channel 5330	Channel 5330	Channel 5330
		κ. ·	763MHz	763 MHz	763 MHz
		-			
Test Mode	Bandwidth	TX / RX		RF Channel	
Test Mode	Danuwidth		Low (L)	Middle (M)	High (H)
			Channel 23755	Channel 23790	Channel 23825
		TX	706.5 MHz	710 MHz	713.5 MHz
	5MHz	RX	Channel 5755	Channel 5790	Channel 5825
LTE Band 17			736.5 MHz	740 MHz	743.5 MHz
			Channel 23780	Channel 23790	Channel 23800
		TX	709 MHz	710 MHz	711 MHz



10MHz

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-and-Conditions/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction document. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) are retained for 30 days only. Attention: To check the authenticity of testing finspection report & certificate, please contact us at telephone: (86-755) 8307 1443, e: (86-755) 8307 1443, t (86-512) 62992980 www.sgsgroup.com.cn

Channel 5780

739 MHz

RX

Channel 5790

740 MHz

Channel 5800

741 MHz

of and the CHARLEN ALL Ansheing Reads Starbun Madestral Park, Kuzhou Area, China (Jiangsu) Plot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业国区调胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980

			Report	No.: SEWA220	5000015RG01
			Rev.:	01	
			Page:	28 of 47	
				RF Channel	
Test Mode	Bandwidth	TX/RX	Low (L)	Middle (M)	High (H)
			Channel 26047	Channel 26365	Channel 26683
		ТХ	1850.7 MHz	1882.5 MHz	1914.3 MHz
	1.4MHz	RX	Channel 8047	Channel 8365	Channel 8683
		КЛ	1930.7 MHz	1962.5 MHz	1994.3 MHz
			Channel 26055	Channel 26365	Channel 26675
		ТХ	1851.5 MHz	1882.5 MHz	1913.5 MHz
	3MHz	RX	Channel 8055	Channel 8365	Channel 8675
		κλ	1931.5 MHz	1962.5 MHz	1993.5 MHz
	5MHz -	тх	Channel 26065	Channel 26365	Channel 26665
			1852.5 MHz	1882.5 MHz	1912.5 MHz
		RX	Channel 8065	Channel 8365	Channel 8665
			1932.5 MHz	1962.5 MHz	1992.5 MHz
LTE Band 25		ТХ	Channel 26090	Channel 26365	Channel 26640
	10MHz		1855 MHz	1882.5 MHz	1910 MHz
		RX	Channel 8090	Channel 8365	Channel 8640
			1935 MHz	1962.5 MHz	1990 MHz
			Channel 26115	Channel 26365	Channel 26615
		ТХ	1857.5 MHz	1882.5 MHz	1907.5 MHz
	15MHz	RX	Channel 8115	Channel 8365	Channel 8615
			1937.5 MHz	1962.5 MHz	1987.5 MHz
			Channel 26140	Channel 26365	Channel 26590
		ТХ	1860 MHz	1882.5 MHz	1905 MHz
	20MHz	DV	Channel 8140	Channel 8365	Channel 8590
		RX	1940 MHz	1962.5 MHz	1985 MHz



t (86–512) 62992980 sgs.china@sgs.com Member of the SGS Group (SGS SA)

			Report	No.: SEWA220	5000015RG01
			Rev.:	01	
			Page:	29 of 47	
Test Mode	Bandwidth	TX / RX		RF Channel	
Test Mode	Danuwiulii		Low (L)	Middle (M)	High (H)
		 \ <i>z</i>	Channel 26697	Channel 26740	Channel 26783
		TX	814.7 MHz	819 MHz	823.3 MHz
	1.4MHz	RX	Channel 8697	Channel 8740	Channel 8783
		КЛ	859.7 MHz	864MHz	868.3 MHz
			Channel 26705	Channel 26740	Channel 26775
	3MHz	TX	815.5 MHz	819 MHz	822.5 MHz
		RX	Channel 8705	Channel 8740	Channel 8775
LTE Band 26			860.5 MHz	864MHz	867.5 MHz
(814-824)		тх	Channel 26715	Channel 26740	Channel 26765
			816.5 MHz	819 MHz	821.5 MHz
	5MHz	RX	Channel 8715	Channel 8740	Channel 8755
		КЛ	861.5 MHz	864MHz	866.5 MHz
			Channel 26740	Channel 26740	Channel 26740
		TX	819 MHz	819 MHz	819 MHz
	10MHz	RX	Channel 8740	Channel 8740	Channel 8740
		٢A	864MHz	864MHz	864MHz

Test Made	Bandwidth	TV / DV		RF Channel	
Test Mode	Test Mode Bandwidth	TX/RX	Low (L)	Middle (M)	High (H)
			Channel 26797	Channel 26915	Channel 27033
		ТХ	824.7 MHz	836.5 MHz	848.3 MHz
	1.4MHz	RX	Channel 8697	Channel 8915	Channel 9033
		ΓA	859.7 MHz	881.5 MHz	893.3 MHz
			Channel 26805	Channel 26915	Channel 27025
		ТХ	825.5 MHz	836.5 MHz	847.5 MHz
	3MHz	RX	Channel 8805	Channel 8915	Channel 9025
		КЛ	860.5 MHz	881.5 MHz	892.5 MHz
	5MHz	тх	Channel 26815	Channel 26915	Channel 27015
LTE Band26			826.5 MHz	836.5 MHz	846.5 MHz
(824-849)		RX	Channel 8815	Channel 8915	Channel 9015
			871.5 MHz	881.5 MHz	891.5 MHz
		тх	Channel 26840	Channel 26915	Channel 26990
			829 MHz	836.5 MHz	844 MHz
	10MHz	DV	Channel 8840	Channel 8915	Channel 8990
		RX	874 MHz	881.5 MHz	889 MHz
			Channel 26865	Channel 26915	Channel 26965
		ТХ	831.5 MHz	836.5 MHz	841.5 MHz
	15MHz	RX	Channel 8865	Channel 8915	Channel 8965
			876.5 MHz	881.5 MHz	886.5 MHz



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format document, attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755)8307 1443, or email: CN_Doccheck@sgs.com

Grownan, Concentrate Carbon (1997) の助めがんのとPert, No.1, Runsleng Rose, Sachau Iudiskini Park, Sachou Area, China (Jangsu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测量路1号約6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

			Report	No.: SEWA220	5000015RG01
			Rev.:	01	
-			Page:	30 of 47	_
Test Mode	Bandwidth	TX / RX		RF Channel	
Test Mode	Danuwiuun		Low (L)	Middle (M)	High (H)
			Channel 39675	Channel40620	Channel 41565
	5MHz	TX / RX	2498.5 MHz	2593 MHz	2687.5 MHz
			Channel 39700	Channel40620	Channel 41540
LTE Band 41	10MHz	TX / RX	2501 MHz	2593 MHz	2685 MHz
(2496-2690)			Channel 39725	Channel40620	Channel 41515
,	15MHz	TX / RX	2503.5 MHz	2593 MHz	2682.5 MHz
			Channel 39750	Channel40620	Channel 41490
	20MHz	TX / RX	2506 MHz	2593 MHz	2680 MHz

	Donoduuidth		RF Channel			
Test Mode	Bandwidth	TX / RX	Low (L)	Middle (M)	High (H)	
			Channel 131979	Channel 132322	Channel 132665	
		TX	1710.7 MHz	1745 MHz	1779.3 MHz	
	1.4MHz	RX	Channel 66443	Channel 66786	Channel 67329	
		κ <u>λ</u>	2110.7 MHz	2145MHz	2199.3 MHz	
			Channel 131987	Channel 132322	Channel 132657	
		TX	1711.5 MHz	1745 MHz	1778.5MHz	
	3MHz	RX	Channel 66451	Channel 66786	Channel 67321	
		κ <u>λ</u>	2111.5 MHz	2145MHz	2198.5MHz	
			Channel 131997	Channel 132322	Channel 132647	
	5MHz -	ТХ	1712.5 MHz	1745 MHz	1777.5 MHz	
		RX	Channel 66461	Channel 66786	Channel 67311	
			2112.5 MHz	2145MHz	2197.5 MHz	
LTE Band66		тх	Channel 132022	Channel 132322	Channel 132622	
			1715 MHz	1745 MHz	1775 MHz	
	10MHz	RX	Channel 66486	Channel 66786	Channel 67286	
			2115 MHz	2145MHz	2195 MHz	
			Channel 132047	Channel 132322	Channel 132597	
		ТХ	1717.5 MHz	1745 MHz	1772.5 MHz	
	15MHz	RX	Channel 66511	Channel 66786	Channel 67261	
			2117.5 MHz	2145MHz	2192.5 MHz	
			Channel 132072	Channel 132322	Channel 132572	
		ТХ	1720 MHz	1745 MHz	1770 MHz	
	20MHz	DV	Channel 66536	Channel 66786	Channel 67236	
		RX	2120 MHz	2145MHz	2190 MHz	



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format document, attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not excore the experise to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forger or faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755)8307 1443, or email: Chooccheck@sgs.com

Grand Mike Dienki, No.1, Rundieng Ross Suchus Mastiel Park, Suchou Area, China (Jangsei) Pikt Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号約6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

Report No.: SEWA2205000015RG01				05000015RG01	
			Rev.:	: 01	
			Page	e: 31 of 47	
	Danaduuidth			RF Channel	
Test Mode	Bandwidth	TX/RX	Low (L)	Middle (M)	High (H)
			Channel 133147	Channel 133297	Channel 133447
		TX	665.5 MHz	680.5 MHz	695.5 MHz
	5MHz	RX	Channel 68611	Channel 68761	Channel 68911
		КЛ	619.5 MHz	634.5 MHz	649.5 MHz
	10MHz		Channel 133172	Channel 133297	Channel 133422
		TX	668 MHz	680.5 MHz	693 MHz
		RX	Channel 68636	Channel 68761	Channel 68886
		КЛ	622 MHz	634.5 MHz	647 MHz
LTE Band71		ТХ	Channel 133197	Channel 133297	Channel 133397
			670.5 MHz	680.5 MHz	690.5 MHz
	15MHz	RX	Channel 68661	Channel 68761	Channel 68861
		КЛ	624.5 MHz	634.5 MHz	644.5 MHz
			Channel 133222	Channel 133297	Channel 133372
		ТХ	673 MHz	680.5 MHz	688 MHz
	20MHz	RX	Channel 68686	Channel 68761	Channel 68836
		ΓΛ	627 MHz	634.5 MHz	642 MHz



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction document. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or faisification of the results shown in this test report refer only to the sample(s) tested and such sample(s) are relatived for 30 days only. are mail: CO Doccheck@nes.com or lesting impection report & certificate, please contact us at telephone: (86-755) 8307 1443, are mail: CO Doccheck@nes.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南部 邮编: 215000

t (86-512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 Member of the SGS Group (SGS SA)

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 32 of 47

4 Description of Tests

4.1 Conducted Output Power

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.2.1

The transmitter output was connected to a calibrated coaxial cable, attenuator and power meter, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The power output at the transmitter antenna port was determined by adding the value of the cable insertion loss to the power reading. The tests were performed at three frequencies (low channel, middle channel and high channel) and on the highest power levels, which can be setup on the transmitters.

Remark: Reference test setup 1



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions, for electronic format documents, advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unawtui and offenders may be prosecuted to the fullest extend to the avoid of the company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unawtuin and offenders may be prosecuted to the fullest extend to the avoid on the content or appearance of this document is unawtui and offenders may be prosecuted to the fullest extend to the avoid on the content or appearance of this document is unawtui and offenders may be prosecuted to the fullest extend to the avoid on the content or appearance of this document is unawtui and offenders may be prosecuted to the fullest extend for 30 days only. Attention: To check the authenticity of testing finspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pitot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号的6号厂房南部 邮编: 215000 t (86-512) 62992980 www.sgsgroup.com.cn t (86-512) 62992980 sgs.china@sgs.com

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 33 of 47

4.2 Effective (Isotropic) Radiated Power of Transmitter

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.8.4 Calculate power in dBm by the following formula: ERP (dBm) = Conducted Power (dBm) + antenna gain (dBd) EIRP(dBm) = Conducted Power (dBm) + antenna gain (dBi) EIRP=ERP+2.15dB

S



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawfull and offenders may be prosecuted to the fullest extent of the law. Dheles otherwise stated the results shown in this test report refer only to the sample(s) lested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing/inspection report & certificate, please contact us at telephoner. (86-755) 8307 1443,

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pitot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 34 of 47

4.3 Occupied Bandwidth

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 4.2 & 4.3

The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured. The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel, middle channel and high channel). The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1 percent of the selected span as is possible without being below 1 percent. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual. The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 percent of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded. The span between the two recorded frequencies is the occupied bandwidth.

Remark: Reference test setup 1

Test Settings

- The signal analyzer's automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
- 2. RBW = 1 5% of the expected OBW
- 3. VBW ≥ 3 x RBW
- 4. Detector = Peak
- 5. Trace mode = max hold
- 6. Sweep = auto couple
- 7. The trace was allowed to stabilize
- 8. If necessary, steps 2 7 were repeated after changing the RBW such that it would be within
 - 1 5% of the 99% occupied bandwidth observed in Step 7



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law Unless otherwise stated the results shown in this test report refer only to the sample(s) are retained for 30 days only. Attention: D check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Plot Free Trade Zone 215000 中国 - 苏州 - 中国(江苏)自由贸易试验区苏州片区苏州工业团区润胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 35 of 47

4.4 Band Edge at Antenna Terminals

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 6.0

The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyser, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at two frequencies (low channel and high channel).in the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of 100kHz or 1% of the emission bandwidth of the fundamental emission of the transmitter may be employed. The EUT emission bandwidth is measured as the width of the signal between two points, outside of which all emission are attenuated at least 26dB below the transmitter power. The video bandwidth of the spectrum analyzer was set at thrice the resolution bandwidth. Detector Mode was set to rms.

Remark: Reference test setup 1

Test Settings

- 1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
- 2. Span was set large enough so as to capture all out of band emissions near the band edge
- 3. RBW > 1% of the emission bandwidth
- 4. $VBW \ge 3 \times RBW$
- 5. Detector = RMS
- 6. Number of sweep points ≥ 2 x Span/RBW
- 7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
- 8. Sweep time = auto couple
- 9. The trace was allowed to stabilize



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document can be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is advised that event is unavoid of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unavoid and within the company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unavoid and the sample(s) lested and such sample(s) are retained for 30 days only. Attention: <u>Context was authenticity of testing floreport & cortificate, please contact us at telephone</u>: (86-755) 8307 1443,

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国 - 苏州 - 中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南部 邮编: 215000 t (86-512) 62992980 www.sgsgroup.com.cn

t (86-512) 62992980

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 36 of 47

4.5 Spurious And Harmonic Emissions at Antenna Terminal

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 6.0

The transmitter output was connected to a calibrated coaxial cable, attenuator and Spectrum analyzer, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The tests were performed at three frequencies (low channel and high channel). The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

Remark: Reference test setup 1

Test Settings

1. Start frequency was set to 9kHz and stop frequency was set to at least 10* the fundamental frequency(Separated into at least two plots per channel)

- 2. Detector = RMS
- 3. Trace mode = trace average for continuous emissinos, max hold for pulse emissions
- 4. Sweep time = auto couple
- 5. The trace was allowed to stabilize
- 6. Please see test notes below for RBW and VBW settings



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions, for electronic format documents, advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document constrained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) lested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing finpection report & certificate, please contact us at telephone: (86-755) 8307 1443

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业团区测胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

Report No.: SEWA2205000015RG01 Rev.: 01 37 of 47 Page:

4.6 Peak-Average Ratio

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.7.2

A peak to average ratio measurement is performed at the conducted port of the EUT. For WCDMA signals, the spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level. For GSM signals, an average and a peak trace are used on a spectrum analyzer to determine the largest deviation between the average and the peak power of the EUT in a bandwidth greater than the emission bandwidth. The traces are generated with the spectrum analyzer set to zero span mode.

Remark: Reference test setup 1

Test Settings

- 1. The signal analyzer's CCDF measurement profile is enabled
- Frequency = carrier center frequency
- Measurement BW > Emission bandwidth of signal
- The signal analyzer was set to collect one million samples to generate the CCDF curve
- The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or rappearance of this document is unlawfull and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only. e: (86-755) 8307 1443.

South of No. 6 Plant, No. 1, Runsheno Road, Suzhou Industrial Park, Suzhou Area, China (Jianosu) Pilot Free Trade Zone 215000 中国・苏州・中国(汀苏)自由留易试验区苏州片区苏州丁业园区海胜路1号約6号厂房南部 邮编: 215000 t (86-512) 62992980 www.sasaroup.com.cn sgs.china@sgs.com

t (86-512) 62992980

Report No.: SEWA2205000015RG01 Rev.: 01 38 of 47 Page:

4.7 Field Strength of Spurious Radiation

Measurement Procedure: FCC KDB 971168 D01 V03r01 Section 5.8

Below 1GHz test procedure as below:

- 1). The EUT was powered ON and placed on a 80cm high table in the chamber. The antenna of the transmitter was extended to its maximum length.
- 2). The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made.
- 3). Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization.
- 4). Test the EUT in the lowest channel, the middle channel ,the Highest channel.
- 5). The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.
- 6). Repeat above procedures until all frequencies measured was complete. E (dBuV/m) = Measured amplitude level (dBuV) + (Cable Loss (dB) + Antenna Factor (dB/m) - AMP(dB))EIRP (dBm) = E (dB μ V/m) + 20 log D - 104.8; where D is the measurement distance in meters

Above 1GHz test procedure as below:

- 1) Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber
- 2) Calculate power in dBm by the following formula: E (dB μ V/m) = Measured amplitude level (dB μ V) + (Cable Loss (dB) + Antenna Factor (dB/m) – AMP(dB)) EIRP (dBm) = E (dB μ V/m) + 20 log D - 104.8; where D is the measurement distance in meters
- 3). Test the EUT in the lowest channel, the middle channel the Highest channel
- 4). The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, Only the test worst case mode is recorded in the report.
- 5). Repeat above procedures until all frequencies measured was complete

Remark1: Reference test setup 2

Remark2: The emission below 18G were measured at a 3m test distance, while emissions above 18GHz were measured at a 1m test distance. At a measurement distance of 1 meter the limit line was increased by 20*LOG(3/1) = 9.54 dB.

Remark: Reference test setup 2

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Level = Reading Level(dBuV) + Factor(dB):

Factor = AF(dB/m) + Cable Factor(dB) - Preamplifier gain(dB)

AF = Antenna Factor(dB/m)

Margin = Limit(dBm) - Level(dBm)

2) Scan from 9kHz to 40GHz, The disturbance between 9KHz to 30MHz and 18GHz to 40GHz was very low, and the harmonics were the highest point could be found when testing, so only the harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported .

3) All modes have been tested, but only the worst case data displayed in this report.



Jnless otherwise agreed in writing, this document is issued by the Company subject to its Ge	eneral Conditions of Service printed
overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx	
subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-	
Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined the	
advised that information contained hereon reflects the Company's findings at the time of its inte	
Client's instructions, if any. The Company's sole responsibility is to its Client and this docum	
ransaction from exercising all their rights and obligations under the transaction documents. T	
except in full, without prior written approval of the Company. Any unauthorized alteration, forg	
appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of	
esults shown in this test report refer only to the sample(s) tested and such sample(s) are retained f	for 30 days only.
Attention: To check the authenticity of testing /inspection report & certificate, please contac	t us at telephone: (86-755) 8307 1443
or email: <u>CN.Doccheck@sgs.com</u>	

215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南部 邮编: 215000 t (86-512) 629

t (86-512) 62992980

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 39 of 47

4.8 Frequency Stability / Temperature Variation

Measurement Procedure:

Frequency stability testing is performed in accordance with the guidelines of FCC KDB 971168 D01 V03r01; Section 9

- . The frequency stability of the transmitter is measured by:
- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

Specification – The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency.

Time Period and Procedure:

- 1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
- 2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
- 3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Remark: Reference test setup 3



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document canes not expressed in figure at the time of its intervention only and within the limits of client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction document is individent and for the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unawill and offenders may be prosecuted to the fullest extent of the law other satults shown in this test report refer only to the sample(s) lested and such sample(s) are retained for 30 days only. Attention: Operex the authenticity of testing/Inspection report & certificate, please contact us at telephone: (86-755) 8307 1443.

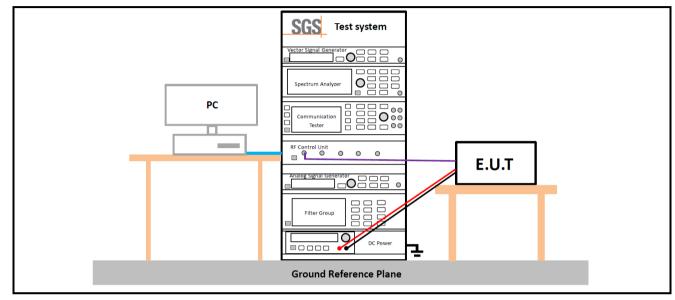
South of No. 6 Plant, No. 1, Runsheng Road, Stuchou Industrial Park, Stuchou Area, China (Jiangsu) Pilot Free Trade Zone 2150000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区湖胜路1号的6号厂房南部 邮编: 215000 t (86-512) 62992980 www.sgsgroup.com.cn

t (86-512) 62992980

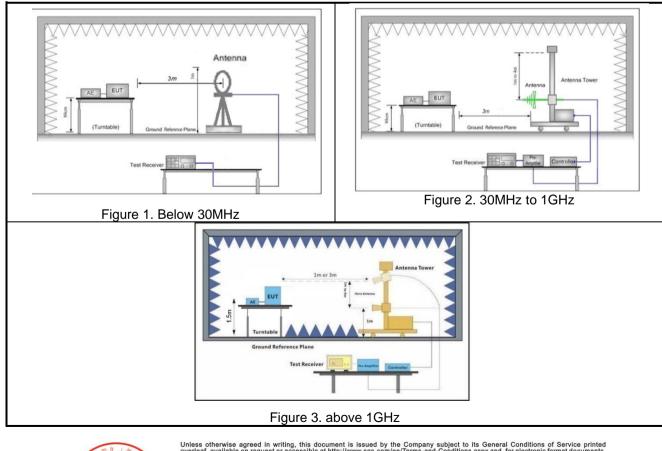
Report No.: SEWA2205000015RG01 Rev.: 01 40 of 47 Page:

4.9 Test Setups

4.9.1 **Test Setup 1**



4.9.2 **Test Setup 2**





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) lested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, e: (86-755) 8307 1443.

South of No. 6 Plant, No. 1, Runsheno Road, Suzhou Industrial Park, Suzhou Area, China (Jianosu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南部 邮编: 215000 t (86-512) 62992980 www.sasaroup.com.cn

t (86-512) 62992980

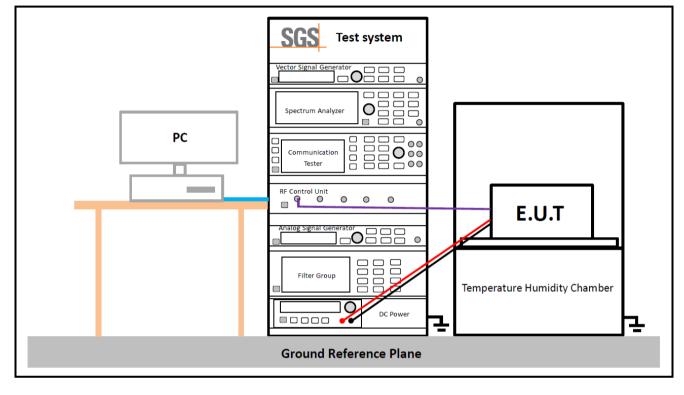
Member of the SGS Group (SGS SA)

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 41 of 47

4.9.3 Test Setup 3





Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions.aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawfull and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) lested and such sample(s) are retained for 30 days only. Attention: <u>O check the authenticity of testing finspection report & certificate, please contact us at telephone</u>: (86-75) 8307 1443,

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pitot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sasaroup.com.cn

t (86-512) 62992980

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 42 of 47

4.10Test Conditions

	Transmit Output Power Data - Average Power, Total
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2; LTE/TM3
	Peak-to-Average Ratio
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2; LTE/TM3
	Modulation Characteristics
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	M (M= middle channel)
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2; LTE/TM3
	Bandwidth - Occupied Bandwidth
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2; LTE/TM3
	Bandwidth - Emission Bandwidth
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Test Mode	GSM/TM1;GSM/TM2;UMTS/TM1; LTE/TM1;LTE/TM2; LTE/TM3



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, statention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forger or faisification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullear extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) are testing for 30 days only. Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN_Doccheck@sgs.com

South of No. 6 Plant, No. 1, Runsheng Road, Stuchou Industrial Park, Stuchou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区湖胜路1号的6号厂房南部 邮编: 215000
 t (86–512) 62992980
 www.sgsgroup.com.cn

 t (86–512) 62992980
 sgs.china@sgs.com

Report No.: SEWA2205000015RG01 Rev.: 01 Page: 43 of 47

	Band Edges Compliance
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, H (L= low channel, H= high channel)
Test Mode	GSM/TM1; UMTS/TM1; LTE/TM1;
	Spurious Emission at Antenna Terminals
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 1
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Test Mode	GSM/TM1; UMTS/TM1; LTE/TM1;
	Field Strength of Spurious Radiation
Test Case	Test Conditions
Test Environment	Ambient Climate & Rated Voltage
Test Setup	Test Setup 2
RF Channels (TX)	L, M, H (L= low channel, M= middle channel, H= high channel)
Test Mode	GSM/TM1; UMTS/TM1; LTE/TM1; Remark: If applicable, the EUT conf. that has maximum power density (based on the equivalent power level) is selected.
	Frequency Stability
Test Case	Test Conditions
Test Environment	 (1) -30 °C to +50 °C with step 10 °C at Rated Voltage (2) VL, VN and VH of Rated Voltage at Ambient Climate.
Test Setup	Test Setup 3
Test Setup RF Channels (TX)	Test Setup 3 M (M= middle channel)



SG

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) testing linspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号約6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

t (86-512) 62992980

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 44 of 47

5 Main Test Instruments

SG

	RF Test Equipment					
Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)	
Shielding Room	Brilliant-emc	N/A	SUWI-04-01-06	2021/05/08	2024/05/08	
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-07	2022/02/16	2023/02/15	
Signal Analyzer	ROHDE&SCHWARZ	FSV3030	SUWI-01-02-02	2022/05/17	2023/05/16	
Measurement Software	Tonscend	JS1120-3 Test System V 2.6.88.0336	SUWI-02-09-09	NCR	NCR	
Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	2021/12/04	2022/12/03	
Wideband Radio Communication Tester	ROHDE&SCHWARZ	CMW500	SUWI-01-16-05	2022/02/14	2023/02/13	
DC Power Supply	HYELEC	HY3005B	SUWI-01-18-01	2022/02/15	2023/02/14	
Temperature Chamber	ESPEC	SU-242	SUWI-01-13-01	2022/02/15	2023/02/14	
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	2022/05/28	2023/05/27	



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) testing linspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Stuchou Industrial Park, Stuchou Area, China (Jiangsu) Pilot Free Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区湖胜路1号的6号厂房南部 邮编: 215000
 t (86–512) 62992980
 www.sgsgroup.com.cn

 t (86–512) 62992980
 sgs.china@sgs.com

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 45 of 47

	RSE Test Equipment				
Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-01	2021/05/08	2024/05/07
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-05	2022/02/16	2023/02/15
Signal Analyzer	ROHDE&SCHWARZ	FSW43	SUWI-01-02-04	2022/05/28	2023/05/27
Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-05	2021/12/04	2022/12/03
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	2022/02/19	2023/02/18
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	VULB 9163	SUWI-01-11-01	2021/05/16	2023/05/15
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	BBHA 9120D	SUWI-01-11-02	2021/05/16	2023/05/15
Receiving antenna	SCHWRZBECK MESS-ELEKTRONIK	BBHA 9170	SUWI-01-11-03	2021/05/14	2023/05/13
Active Loop Antenna	SCHWRZBECK MESS-ELEKTRONIK	FMZB 1519B	SUWI-01-21-01	2021/06/10	2023/06/09
Amplifier	Tonscend	TAP9K3G40	SUWI-01-14-01	2022/02/14	2023/02/13
Amplifier	Tonscend	TAP01018050	SUWI-01-14-02	2022/02/14	2023/02/13
Amplifier	Tonscend	TAP18040048	SUWI-01-14-03	2022/02/19	2023/02/18
Wideband Radio Communication Tester	Anritsu	MT8820C	SUWI-01-16-08	2022/02/14	2023/02/13
Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	2021/12/04	2022/12/03
Measurement Software	Tonscend	JS32-RSE 4.0.0.1	SUWI-02-09-06	NCR	NCR



S

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) testing linspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pitot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区测胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com

Report No.: SEWA2205000015RG01 Rev.: 01 46 of 47 Page:

Measurement Uncertainty 6

For a 95% confidence level (k = 2), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

No.	Item	Measurement Uncertainty
1	Total RF power, conducted	±0.54dB
2	RF power density, conducted	±1.03dB
3	Spurious emissions, conducted	±0.54dB
4	Radio Frequency	±1.0%
5	Duty Cycle	±0.37%
6	Occupied Bandwidth	±1.0%
		± 3.13dB (9kHz - 30MHz)
7	De dista d Envirois e	± 4.8dB (30MHz - 1GHz)
7	Radiated Emission	± 4.8dB (1GHz to 18GHz)
		± 4.8dB (Above 18GHz)
Remark:		

The U_{lab} (lab Uncertainty) is less than U_{cispr/ETSI} (CISPR/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;

- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com/en/Terms-and-Conditions,aspx</u> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Documentaspx</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawfull and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) lested and such sample(s) are retained for 30 days only. Attention: To check the authenticity of testing/Inspection reports & certificate, please contact us at telephone: (66-755) 83071443. ne: (86-755) 8307 1443.

South of No. 6 Plant, No. 1, Runsheno Road, Suzhou Industrial Park, Suzhou Area, China (Jianosu) Pilot Free Trade Zone 215000 中国・苏州・中国(江苏)自由贸易试验区苏州片区苏州工业园区润胜路1号的6号厂房南部 邮编: 215000 t (86-512) 62992980 www.sasaroup.com.cn

t (86-512) 62992980

 Report No.:
 SEWA2205000015RG01

 Rev.:
 01

 Page:
 47 of 47

7 Appendixes

Appendix A.2	WWAN Setup Photos
Appendix B.1	GSM 1900
Appendix B.2	WCDMA Band II & IV & V
Appendix B.3	LTE Band 2
Appendix B.4	LTE Band 4
Appendix B.5	LTE Band 5
Appendix B.6	LTE Band 7
Appendix B.7	LTE Band 12
Appendix B.8	LTE Band 13
Appendix B.9	LTE Band 14
Appendix B.10	LTE Band 17
Appendix B.11	LTE Band 25
Appendix B.12	LTE Band 26(814-824)
Appendix B.13	LTE Band 26(824-849)
Appendix B.14	LTE Band 41
Appendix B.15	LTE Band 66
Appendix B.16	LTE Band 71

---End of Report---



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-en-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Cilent's instructions, if any. The Company's sole responsibility is to its Cilent and this document cannot be reproduced except in full, without prior written approval of the Company, any unauthorized alteration, forgery or falisfication of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) testing linspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN Doccheck@ses.com

South of No. 6 Plant, No. 1, Runsheng Road, Stuchou Industrial Park, Stuchou Area, Chine (Jiangsu) Pilot Free Trade Zone 215000 中国 • 苏州 • 中国(江苏)自由贸易试验区苏州片区苏州工业园区湖胜路1号的6号厂房南部 邮编: 215000 t (86–512) 62992980 www.sgsgroup.com.cn t (86–512) 62992980 sgs.china@sgs.com