

SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page: 1 of 42

TEST REPORT

Application No:	SZCR2412004609WM
Applicant:	vivo Mobile Communication Co., Ltd.
Address of Applicant:	No.1, vivo Road, Chang'an, Dongguan, Guangdong, China
Manufacturer:	vivo Mobile Communication Co., Ltd.
Address of Manufacturer:	No.1, vivo Road, Chang'an, Dongguan, Guangdong, China
EUT Description:	Mobile phone
Model No.:	V2427
Trade Mark:	vivo
FCC ID:	2AUCY-V2427
Standards:	47 CFR Part 2 47 CFR Part 22
	47 CFR Part 24
	47 CFR Part 27
	47 CFR Part 90
Date of Receipt:	2024/12/06
Date of Test:	2024/12/17 to 2025/01/03
Date of Issue:	2025/01/10
Test Result:	PASS *

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

Ceny. XM

Keny Xu EMC 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 https://www.sgs.com/en/Terms-and-Conditions. 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 so 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@gs.com

or email: <u>CN.Doccheck@sgs.com</u> Wo.1 Workshop, M-10, Midde Section, Science & Technology Park, Nanstan District, Shenzhen, Guangdong, China 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn 中国・广东·深圳市南山区科技园中区M-10栋1号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.com



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page: 2 of 42

		<b>Revision Record</b>		
Version	Chapter	Date	Modifier	Remark
01		2025/01/10		Original

Authorized for issue by:		
	Sherlock Jang	
	Sherlock Fang/Project Engineer	
	Eric Fu	
	Eric Fu/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 <u>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 3 of 42 Page:

#### 2 **Test Summary**

### 2.1 NR Band n5/NR Band n26(824-849MHz)

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §22.913(a)(5)	FCC: ERP ≤ 7 W		Pass
Peak-Average Ratio	§22.913(d)	Limit≤13 dB		Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.		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.	Appendix B.22&B.25	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.	D.22&D.23	Pass
Field Strength of Spurious Radiation	§2.1053, §22.917(a)	FCC: ≤ -13 dBm/100 kHz.		Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(2) §22.355	±2.5ppm.		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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)

No. 1 Workshow, M-10, Middle Section, Science & Technology Part, Nanshan District, Shenzhen, Guangdong, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page: 4 of 42

## 2.2 NR Band n7/NR Band n38/ NR Band n41

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(h)(2)	EIRP ≤ 2W		Pass
Peak-Average Ratio		≤13 dB		Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.		Pass
Band Edges Compliance	§2.1051, §27.53(m)(4)	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.	Appendix B.23&B.26&B.27	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(m)	25 dBm/ 1 MHz 9 kHz 9 kHz 25 dBm/ 1 MHz 9 kHz 25 dBm/ 1 MHz 4 1 MHz 1 MHz		Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(m)	Picture Channel Edge -25 dBm/ 1 MHz 9 kHz 9 5 MHz XMHz 10 <sup>th</sup> harmonics X=Max {6MHz, EBW}		Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d) (2) §27.54	Within authorized bands of operation/frequency block.		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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 5 of 42 Page:

#### 2.3 NR Band n2

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §24.232(c)	EIRP ≤ 2 W		Pass
Peak-Average Ratio	§24.232(d)	Limit≤13 dB		Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.		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.	Appendix B.21	Pass
Spurious Emission at Antenna Terminals	§2.1051, §24.238(a)	≤ -13 dBm/1 MHz, from 9 kHz to 10 <sup>th</sup> harmonics but outside authorized operating frequency ranges.		Pass
Field Strength of Spurious Radiation	§2.1053, §24.238(a)	≤ -13 dBm/1 MHz.		Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d) (2) §24.235	Within authorized bands of operation/frequency block.		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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)

No. 1 Workshow, M-10, Middle Section, Science & Technology Part, Nanshan District, Shenzhen, Guangdong, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 6 of 42 Page:

# 2.4 NR Band n26(814~824 MHz)

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Transmitter Conducted Power Output	§2.1046, §90.635(b)	< 100 W.		Pass
Peak-Average Ratio		Limit≤13 dB		Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.		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.	Appendix B.24	Pass
Spurious Emission at Antenna Terminals	§2.1051, §90.691	< 43 + 10Log10(P[Watts]) for all out-of- band emissions		Pass
Field Strength of Spurious Radiation	§2.1053, §90.691	< 43 + 10Log10(P[Watts]) for all out-of- band emissions		Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d)(1) §90.213	Within authorized bands of operation/frequency block.		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>https://www.sgs.com/en/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 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) tested and such ample(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,



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 7 of 42 Page:

#### 2.5 NR Band n66

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(d)(4)	EIRP ≤ 1 W		Pass
Peak-Average Ratio	§27.50(d)(5)	Limit≤13 dB		Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.		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.	Appendix B.28	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(h)	≤ -13 dBm/1 MHz, from 9 kHz to 10 <sup>th</sup> harmonics but outside authorized operating frequency ranges.		Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(h)	≤ -13 dBm/1 MHz.		Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d) (2) §27.54	Within authorized bands of operation/frequency block.		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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)

No. 1 Workshow, M-10, Middle Section, Science & Technology Part, Nanshan District, Shenzhen, Guangdong, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

## 2.6 NR Band n77/ NR Band n78

#### 3450-3550MHz:

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(k)(3)	EIRP ≤ 30dBm	_	Pass
Peak-Average Ratio	§27.50(k)(4)	FCC: Limit≤13 dB		Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.		Pass
Band Edges Compliance	§2.1051, §27.50(n)(2)	For mobile operations in the 3450- 3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.	Appendix B.29&B.31	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.50(n)(2)	For mobile operations in the 3450- 3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.		Pass
Field Strength of Spurious Radiation	§2.1053, §27.50(n)(2)	For mobile operations in the 3450- 3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.		Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d) (2) §27.54	Within authorized bands of operation/ frequency block.		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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)

No. 1 Workshow, M-10, Middle Section, Science & Technology Part, Nanshan District, Shenzhen, Guangdong, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 3700-3980MHz:

Test Item	FCC Rule No.	Requirements	Test Result	Verdict
Effective (Isotropic) Radiated Power Output Data	§2.1046, §27.50(j)(3)	EIRP ≤ 1W		Pass
Peak-Average Ratio		≤13 dB		Pass
Bandwidth	§2.1049	OBW: No limit. EBW: No limit.		Pass
Band Edges Compliance	§2.1051, §27.53(l)(2)	<ul> <li>(2) For mobile operations in the 3700- 3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed - 13 dBm/MHz. Compliance with this paragraph (I)(2) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, the minimum resolution</li> <li>bandwidth for the measurement shall be either one percent of the emission of the transmitter or 350 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.</li> </ul>	Appendix B.30&B.32	Pass
Spurious Emission at Antenna Terminals	§2.1051, §27.53(l)(2)	not exceed -13 dBm/MHz.		Pass
Field Strength of Spurious Radiation	§2.1053, §27.53(l)(2)	not exceed -13 dBm/MHz		Pass
Frequency Stability	§2.1055(a)(1)(b) §2.1055(d) (2) §27.54	Within authorized bands of operation/frequency block.		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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

# 3 Content

1	Cove	er Page	. 1
2	Test	Summary	3
	2.1	NR Band n5/NR Band n26(824-849MHz)	. 3
	2.2	NR Band n7/NR Band n38/ NR Band n41	4
	2.3	NR Band n2	5
	2.4	NR Band n26(814~824 MHz)	6
	2.5	NR Band n66	7
	2.6	NR Band n77/ NR Band n78	8
3	Cont	ent	10
4	Gene	eral Information	12
	4.1	General Description of EUT	12
	4.2	Test Mode	13
	4.3	Test Environment	13
	4.4	Description of Support Units	13
	4.5	Measurement Uncertainty	14
	4.6	Test Location	15
	4.7	Test Facility	15
	4.8	Technical Specification	16
	4.9	Test Frequencies	17
	4.9.1	Reference test frequencies for NR operating band n2	17
	4.9.2	Reference test frequencies for NR operating band n5	18
	4.9.3	Reference test frequencies for NR operating band n7	19
	4.9.4	Reference test frequencies for NR operating band n262	20
	4.9.5	Reference test frequencies for NR operating band n382	21
	4.9.6	Reference test frequencies for NR operating band n412	22
	4.9.7	Reference test frequencies for NR operating band n66	23
	4.9.8	Reference test frequencies for NR operating band n772	24
	4.9.9	Reference test frequencies for NR operating band n78	26
5	Equi	pment List	28
		Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf,	



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 <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. 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 excore a 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 fails/fication 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) 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@ags.com</a> (Ni. Wintshow, Millow Sexto, Suckes & Hendow) Path kankan Sharden, Sh



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

6	Desc	cription of Tests	.30
	6.1	Conducted Output Power	.30
	6.2	Effective (Isotropic) Radiated Power of Transmitter	.31
	6.3	Occupied Bandwidth	.32
	6.4	Band Edge at Antenna Terminals	.33
	6.5	Spurious And Harmonic Emissions at Antenna Terminal	.34
	6.6	Peak-Average Ratio	.35
	6.7	Field Strength of Spurious Radiation	.36
	6.8	Frequency Stability / Temperature Variation	.37
	6.9	Test Setups	.38
	6.9.1	Test Setup 1	.38
	6.9.2	2 Test Setup 2	.38
	6.9.3	3 Test Setup 3	.39
	6.10	Test Conditions	.40
7	Арри	endixes	42



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 <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. 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) 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: (SN\_Doccheck@egs.com")



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

# 4 General Information

#### 4.1 General Description of EUT

EUT Description:	Mobile phone				
Model No.:	V2427				
Trade Mark:	vivo				
Hardware Version:	MP_0.1				
Software Version:	PD2437JF_EX_	PD2437JF_EX_A_15.0.8.0.W30			
Power supply:	DC 3.84V from i adapter	DC 3.84V from internal rechargeable battery which can be charged by AC/DC adapter			
	RF Conducted		861994079993517		
IMEI:	RSE		861994079991370		
HPUE Power Class:	Class 2: NR Bar	Class 2: NR Band n41; NR Band n78			
Antenna Type:		Ant11: IFA Antenna Others:PIFA Antenna			
	NR Band n2:	NR Band n2: -2.25dBi(Ant12);-2.1dBi(Ant14);-3.20dBi(Ant24);-2.30dBi(Art			
	NR Band n5:	: -2.34dBi(Ant11); -4.71dBi(Ant31);			
-	NR Band n7:	-3.94dBi(Ant12); -1dBi(Ant14); -2.10dBi(Ant24); 0.05dBi(Ant41);			
	NR Band n26:	NR Band n26: -6.85dBi(Ant11); -4.73dBi(Ant31);			
	NR Band n38:	-2.77dB	i(Ant12);-0.3dBi(Ant14);-2.22	dBi(Ant24);0.00dBi(Ant41);	
Antenna Gain:	NR Band n41:	-2.74dB	i(Ant12);-0.3dBi(Ant14);-2.10	dBi(Ant24);-0.15dBi(Ant41);	
	NR Band n66:	-2.25dB	i(Ant12);-1.7dBi(Ant14);-4.24	dBi(Ant24);-2.00dBi(Ant41);	
	NR Band n77:	0.4dBi(A	Ant13); 0.0dBi(Ant14); -4.37d	Bi(Ant21); -0.78dBi(Ant23);	
	NR Band n78:	0.4dBi(A	Ant13); 0.0dBi(Ant14); -3.43d	Bi(Ant21); 0.82dBi(Ant23);	
	Note: The antenna gain are derived from the gain information report provided by the manufacturer.				
	9kHz ~ 30l (0.3dB)		30MHz ~ 1000MHz (0.6dB)	1000MHz ~ 2000MHz (0.8dB)	
RF Cable:	2000MHz ~ 40 (1.1dB)		4000MHz ~ 6000MHz (1.8dB)	6000MHz ~ 12750MHz (2.6dB)	
	Above 12750MH	lz(3.5dB)	•		
Remark:					

1. Conduction Power & EIRP of all antennas are tested, and only the worst data is presented 2.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>https://www.sgs.com/en/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 so 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 focuments. This document does not exonerate parties to a transaction from exercising all their rights and obligations 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@gs.com
[N. Wwitaby.Hull.Midd Scienci, Stenze Itemidy Park Insten Distric, Shenzhen, Guagdong, Clims 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 4.2 Test Mode

Test Mode	Test Modes Description
NR/TM1	NR system, DFT-s-Pi/2-BPSK modulation
NR/TM2	NR system, DFT-s-QPSK modulation
NR/TM3	NR system, DFT-s-16QAM modulation
NR/TM4	NR system, DFT-s-64QAM modulation
NR/TM5	NR system, DFT-s-256QAM modulation
NR/TM6	NR system, CP-QPSK modulation
NR/TM7	NR system, CP-16QAM modulation
NR/TM8	NR system, CP-64QAM modulation
NR/TM9	NR system, CP-256QAM modulation
Remark: The test mode(s)	are selected according to relevant radio technology specifications.

#### 4.3 Test Environment

Environment Parameter		101 kPa Selected Values During Tests			
Relative Humidity		44-46 % RH Ambient			
Value		Temperature(°C)	Voltage(V)		
NTNV		22~23	3.84		
LTLV		-30	3.6		
LTHV		-30	4.3		
HTLV		50	3.6		
HTHV		50	4.3		
Remark:					
NV: Normal Voltage LV: Low		/ Extreme Test Voltage	HV: High Extreme Test Voltage		
NT: Normal Temperature LT	: Low	v Extreme Test Temperature	HT: High Extreme Test Temperature		

# 4.4 Description of Support Units

The EUT has been tested as an independent unit.



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 <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: **CN\_Doccheck@csoc.com** 



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 4.5 Measurement Uncertainty

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	Radio Frequency	± 9.84Hz
2	Duty cycle	± 0.185%
3	Occupied Bandwidth	± 0.20%
4	RF conducted power	± 0.42dB
5	RF power density	± 1.97dB
6	Conducted Spurious emissions	± 0.42dB
		±4.8dB (30MHz-1GHz)
7	Dedicted Courieus emission test(UE)	±4.68dB (1GHz-6GHz)
1	Radiated Spurious emission test(UE)	±4.52dB (6GHz-18GHz)
		±5.26dB (18GHz-40GHz)

The Ulab (lab Uncertainty) is less than Ucispr/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 <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

No.1 Workshop, M-10, Middle Section, Science & Technology Part, Nanshan District, Shenzhen, Guangdong, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 4.6 Test Location

All tests were performed at: SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China. 518057. Fax: +86 755 2671 0594 Tel: +86 755 2601 2053 No tests were sub-contracted.

#### 4.7 Test Facility

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

#### A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

#### VCCI (Member No. 1937)

The 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen EMC laboratory have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

#### FCC –Designation Number: CN1336

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1336. Test Firm Registration Number: 787754.

#### Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006. IC#: 4620C.



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>https://www.sgs.com/en/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 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. ample(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

No. 1 Workshop, M-10, Middle Section, Science & Fedmolowy Park, Nanshan District, Shenzhen, Guanodono, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

### 4.8 Technical Specification

Characteristics	Description					
Radio System Type	🖾 SA 🖾 NSA					
	Band	ТХ	RX			
	NR Band n2	1850 to 1910 MHz	1930 to 1990 MHz			
	NR Band n5	824 to 849 MHz	869 to 894 MHz			
	NR Band n7	2500 to 2570 MHz	2620 to 2690 MHz			
	NR Band n26 (814 to 824 MHz)	814 to 824MHz	859 to 869 MHz			
	NR Band n26 (824 to 849 MHz)	824 to 849 MHz	869 to 894 MHz			
	NR Band n38	2570 to 2620 MHz	2570 to 2620 MHz			
	NR Band n41	2496 to 2690 MHz	2496 to 2690 MHz			
	NR Band n66	1710 to 1780 MHz	2110 to 2180 MHz			
	NR Band n77*	3700 to 3980 MHz	3700 to 3980 MHz			
		3450 to 3550 MHz	3450 to 3550 MHz			
Supported Frequency Range	NR Band n78*	3700 to 3800 MHz	3700 to 3800 MHz			
Trange	NIX Danu II70	3450 to 3550 MHz	3450 to 3550 MHz			
	ENDC:					
	CA_n5A-n78A,					
	DC_4A_n2A, DC_7A_n2A, DC_66A_n2A;DC_7A_n5A; DC_2A_n7A,					
	DC_4A_n7A, DC_5A_n7A, DC_66A_n7A;DC_7A_n26A;DC_4A_n38A,					
	DC_66A_n38A ;DC_4A_n41A, DC_26A_n41A, DC_66A_n41A;					
	DC_2A_n66A, DC_5A_n66A, DC_7A_n66A;DC_7A_n77A;DC_2A_n78A,					
	DC_4A_n78A, DC_5A_n78A, DC_7A_n78A, DC_38A_n78A, DC_41A_n78A,					
	DC_66A_n78A;					
	Note*: Both NR Band n77 and NR Band n78 have the same frequency range 3450 MHz to 3550 MHz, and NR Band n78 was fully tested, NR Band n77 only test the items of Power. Remark: ENDC Only test RSE, report only show worst mode.					



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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

### 4.9 Test Frequencies

#### 4.9.1 Reference test frequencies for NR operating band n2 4.9.1.1 Test frequencies for NR operating band n2 and SCS 15 kHz

CBW [MHz]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
		Low	1932.5	386500	
	Downlink	Mid	1960	392000	15
F		High	1987.5	397500	
5	Uplink	Low	1852.5	370500	
		Mid	1880	376000	-
		High	1907.5	381500	
		Low	1935	387000	
	Downlink	Mid	1960	392000	15
10		High	1985	397000	
10	Uplink	Low	1855	371000	
		Mid	1880	376000	-
	-	High	1905	381000	
		Low	1937.5	387500	
	Downlink	Mid	1960	392000	15
45		High	1982.5	396500	
15		Low	1857.5	371500	
	Uplink	Mid	1880	376000	-
	-	High	1902.5	380500	
		Low	1940	388000	
	Downlink	Mid	1960	392000	15
20		High	1980	396000	
20		Low	1860	372000	
	Uplink	Mid	1880	376000	-
	•	High	1900	380000	



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>https://www.sgs.com/en/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 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 No.1 Workshop, M-10, Midde Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 4.9.2 Reference test frequencies for NR operating band n5 4.9.2.1 Test frequencies for NR operating band n5 and SCS 15 kHz

CBW [MHz]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
		Low	871.5	174300	
	Downlink	Mid	881.5	176300	15
5		High	891.5	178300	
5		Low	826.5	165300	
	Uplink	Mid	836.5	167300	-
	-	High	846.5	169300	
		Low	874	174800	
	Downlink	Mid	881.5	176300	15
10		High	889	177800	1
10		Low	829	165800	
	Uplink	Mid	836.5	167300	-
	-	High	844	168800	1
		Low	876.5	175300	
	Downlink	Mid	881.5	176300	15
15		High	886.5	177300	
15		Low	831.5	166300	
	Uplink	Mid	836.5	167300	-
		High	841.5	168300	
		Low	879	175800	
	Downlink	Mid 881.5 176300	15		
20		High	884	176800	
20		Low	834	166800	
	Uplink	Mid	836.5	167300	-
		High	839	167800	



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>https://www.sgs.com/en/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 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) tested and such ample(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,

No. 1 Workshow, M-10, Middle Section, Science & Technology Part, Nanshan District, Shenzhen, Guangdong, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### **Carrier centre** Bandwidth Range SS block SCS **Carrier centre** [MHz] [MHz] [ARFCN] [kHz] Low 2622.5 524500 Downlink 531000 Mid 2655 15 2687.5 537500 High 5 Low 2502.5 500500 Uplink Mid 2535 507000 --2567.5 513500 High Low 2625 525000 Downlink Mid 2655 531000 15 High 2685 537000 10 2505 501000 Low Uplink Mid 2535 507000 High 2565 513000 525500 2627.5 Low Downlink 531000 Mid 2655 15 High 2682.5 536500 15 Low 2507.5 501500 Uplink Mid 2535 507000 ---2562.5 512500 High 2630 526000 Low Downlink Mid 2655 531000 15 High 2680 536000 20 2510 502000 Low 2535 507000 Uplink Mid ---High 2560 512000 Low 2632.5 526500 Downlink Mid 2655 531000 15 High 2677.5 535500 25 Low 2512.5 502500 Uplink 507000 Mid 2535 ---2557.5 511500 High Low 2635 52700 Downlink 531000

#### Reference test frequencies for NR operating band n7 4.9.3 4.9.3.1 Test frequencies for NR operating band n7 and SCS 15 kHz



30

40

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>https://www.sgs.com/en/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 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. ample(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,

2655

2675

2515

2535

2555

2640

2655

2670

2520

2535

2550

535000

503000

507000

511000

528000

531000

534000

504000

507000

510000

No. 1 Workshop, M-10, Middle Section, Science & Fedmolowy Park, Nanshan District, Shenzhen, Guanodono, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn

中国・广东・深圳市南山区科技园中区M-10栋1号厂房 邮编:518057

Mid

High

Low

Mid

High

Low

Mid

High

Low

Mid

High

Uplink

Downlink

Uplink

t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

15

---

15

---



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 4.9.4 Reference test frequencies for NR operating band n26

4.9.4.1 Test frequencies for NR operating band n26 and SCS 15 kHz

814-824:					
CBW [MHz]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
		Low	861.5	172300	
	Downlink	Mid	864	172800	15
F		High	866.5	173300	
5	Uplink	Low	816.5	163300	
		Mid	819	163800	-
		High	821.5	164300	
		Low	/	/	
	Downlink	Mid	864	172800	15
10		High	/	/	
10		Low	/	/	
	Uplink	Mid	819	163800	-
		High	/	/	7

CBW [MHz]	Range	Range		Carrier centre [ARFCN]	SS block SCS [kHz]
		Low	871.5	174300	
	Downlink 5	Mid	881.5	176300	15
Б		High	891.5	178300	
Э	Uplink	Low	826.5	165300	
		Mid	836.5	167300	- 1
		High	846.5	169300	
		Low	874	174800	
	Downlink	Mid	881.5	176300	15
10		High	889	177800	
10	Uplink	Low	829	165800	
		Mid	836.5	167300	-
		High	844	168800	
		Low	876.5	175300	
	Downlink	Mid	881.5	176300	15
15		High	886.5	177300	
15		Low	831.5	166300	
	Uplink	Mid	836.5	167300	-
		High	841.5	168300	
		Low	879	175800	
	Downlink	Mid	881.5	176300	15
20		High	884	176800	
20		Low	834	166800	
	Uplink	Mid	836.5	167300	-
		High	839	167800	



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>https://www.sgs.com/en/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 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) tested and such ample(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,



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 4.9.5 Reference test frequencies for NR operating band n38 4.9.5.1 Test frequencies for NR operating band n38 and SCS 30 kHz

Bandwidth [MHz]	Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
	Downlink	Low	2575	515000	
10	&	Mid	2595	519000	30
	Uplink	High	2615	523000	
	Downlink	Low	2577.5	515500	
15	&	Mid	2595	519000	30
	Uplink	High	2612.5	522500	
	Downlink	Low	2580	516000	
20	&	Mid	2595	519000	30
	Uplink	High	2610	522000	
	Downlink	Low	2585	517000	
30	&	Mid	2595	519000	30
	Uplink	High	2605	521000	
	Downlink	Low	2590	518000	
40	&	Mid	2595	519000	30
	Uplink	High	2600	520000	



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>https://www.sgs.com/en/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 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 |No.1 Workshop, M-10, Midde Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

CBW [MHz]	frequencies for NI Range		Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
- · ·	Downlink	Low	2501.01	500202	
10	&	Mid	2592.99	518598	30
-	Uplink	High	2685	537000	
	Downlink	Low	2503.5	500700	
15	&	Mid	2592.99	518598	30
	Uplink	High	2682.48	536496	
	Downlink	Low	2506.02	501204	
20	&	Mid	2592.99	518598	30
	Uplink	High	2679.99	535998	
	Downlink	Low	2511	502200	
30	&	Mid	2592.99	518598	30
	Uplink	High	2674.98	534996	
	Downlink	Low	2516.01	503202	30
40	&	Mid	2592.99	518598	
	Uplink	High	2670	534000	
	Downlink	Low	2521.02	504204	30
50	&	Mid	2592.99	518598	
	Uplink	High	2664.99	532998	
	Downlink	Low	2526	505200	
60	&	Mid	2592.99	518598	30
	Uplink	High	2659.98	531996	
	Downlink	Low	2531.01	506202	
70	&	Mid	2592.29	518598	30
	Uplink	High	2655	531000	
	Downlink	Low	2536.02	507204	
80	&	Mid	2592.99	518598	30
	Uplink	High	2649.99	529998	
	Downlink	Low	2541	508200	30
90	&	Mid	2592.99	518598	
	Uplink	High	2644.98	528996	]
	Downlink	Low	2546.01	509202	
100	&	Mid	2592.99	518598	30
	Uplink	High	2640	528000	7

#### Reference test frequencies for NR operating band n41 4.9.6



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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

CBW [MHz]	Range		and n66 and SCS	Carrier centre	SS block SC
		Low	[MHz] 2112.5	[ARFCN]	[kHz]
	Downlink	Low Mid	2112.5	422500 429000	15
	Downlink	High	2145	435500	15
5		•	1712.5	342500	
	Linlink	Low			-
	Uplink	Mid	1745	349000	
		High	1777.5	355500	
	Downlink	Low Mid	2115	423000 429000	45
	Downlink		2145		15
10		High	2175	435000	
	Uplink	Low	1715	343000	_
		Mid	1745	349000	
		High	1775	355000	
		Low	2117.5	423500	
	Downlink	Mid	2145	429000	15
15 -		High	2172.5	434500	
	Uplink	Low	1717.5	343500	_
		Mid	1745	349000	
		High	1772.5	354500	
	Downlink	Low	2120	424000	
		Mid	2145	429000	15
20		High	2170	434000	
20	Uplink	Low	1720	344000	
		Mid	1745	349000	-
		High	1770	354000	
		Low	2122.5	424500	
	Downlink	Mid	2145	429000	15
25		High	2167.5	433500	
25		Low	1722.5	344500	
	Uplink	Mid	1745	349000	- 1
		High	1767.5	353500	
		Low	2125	425000	
	Downlink	Mid	2145	429000	15
20		High	2165	433000	
30		Low	1725	345000	
	Uplink	Mid	1745	349000	- 1
	·	High	1765	353000	1
		Low	2127.5	425500	
	Downlink	Mid	2145	429000	15
		High	2162.5	432500	1
35		Low	1727.5	345500	
	Uplink	Mid	1745	349000	1 -
	-1	High	1762.5	352500	1
		Low	2130	426000	
	Downlink	Mid	2130	429000	15
	DOWNIIIIK				
40		High	2160	432000	
		Low	1730	346000	4
	Uplink	Mid	1745	349000	
		High	1760	352000	

#### 4.9.7 Reference test frequencies for NR operating band n66 4.9.7.1 Test frequencies for NR operating band n66 and SCS 15 kHz



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>https://www.sgs.com/en/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 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: <u>CN.Doccheck@sgs.com</u> No.1 Workshop, M-10, Midde Section, Science & Technology Park, Nenshan District, Shenzhen, Guangdong, Chine 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 4.9.8 Reference test frequencies for NR operating band n77 4.9.8.1 Test frequencies for NR operating band n77 and SCS 30 kHz

3700-3980-

CBW [MHz]	Range	)	Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
	Downlink	Low	3705	647000	
10	&	Mid	3840	656000	30
	Uplink	High	3975	665000	
	Downlink	Low	3707.52	647168	
15	&	Mid	3840	656000	30
	Uplink	High	3972.48	664832	
	Downlink	Low	3710.01	647334	
20	&	Mid	3840	656000	30
	Uplink	High	3969.99	664666	
	Downlink	Low	3715.02	647668	
30	&	Mid	3840	656000	30
	Uplink	High	3964.98	664332	
	Downlink	Low	3720	648000	
40	&	Mid	3840	656000	30
	Uplink	High	3960	664000	
	Downlink	Low	3725.01	648334	
50	&	Mid	3840	656000	30
	Uplink	High	3954.99	663666	
	Downlink	Low	3730.02	648668	
60	&	Mid	3840	656000	30
	Uplink	High	3949.98	663332	
	Downlink	Low	3735	649000	
70	&	Mid	3840	656000	30
	Uplink	High	3945	663000	
	Downlink	Low	3740.01	649334	
80	&	Mid	3840	656000	30
	Uplink	High	3939.99	662666	
	Downlink	Low	3745.02	649668	
90	&	Mid	3840	656000	30
	Uplink	High	3934.98	662332	
	Downlink	Low	3750	650000	
100	&	Mid	3840	656000	30
	Uplink	High	3930	662000	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 <u>https://www.sgs.com/en/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 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) tested and such ample(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,



SZEMC-TRF-01 Rev. A/1

2450-2550-

Report No.: SZCR241200460905 Page:

CBW [MHz]	Range	!	Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
	Downlink	Low	3455.01	630334	
10	&	Mid	3500.01	633334	30
	Uplink	High	3544.98	636332	
	Downlink	Low	3457.5	630500	
15	&	Mid	3500.01	633334	30
	Uplink	High	3542.49	636166	
	Downlink	Low	3460.02	630668	
20	&	Mid	3500.01	633334	30
	Uplink	High	3540	636000	
	Downlink	Low	3465	631000	
30	&	Mid	3500.01	633334	30
	Uplink	High	3534.99	635666	
	Downlink	Low	3470.01	631334	
40	&	Mid	3500.01	633334	30
	Uplink	High	3529.98	635332	
	Downlink	Low	3475.02	631668	
50	&	Mid	3500.01	633334	30
	Uplink	High	3525	635000	
	Downlink	Low	3480	632000	
60	&	Mid	3500.01	633334	30
	Uplink	High	3519.99	634666	
	Downlink	Low	3485.01	632334	
70	&	Mid	3500.01	633334	30
	Uplink	High	3514.98	634332	
	Downlink	Low	3490.02	632668	
80	&	Mid	3500.01	633334	30
	Uplink	High	3510	634000	
90	Downlink	Low	3495	633000	
	&	Mid	3500.01	633334	30
	Uplink	High	3504.99	633666	1
	Downlink	Low	\	\	
100	&	Mid	3500.01	633334	30
	Uplink	High	\	\	



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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 4.9.9 Reference test frequencies for NR operating band n78 4.9.9.1 Test frequencies for NR operating band n78 and SCS 30 kHz

3700-3800-

CBW [MHz]	Range	•	Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
	Downlink	Low	3705	647000	
10	&	Mid	3750	650000	30
	Uplink	High	3795	653000	
	Downlink	Low	3707.52	647168	
15	&	Mid	3750	650000	30
	Uplink	High	3792.48	652832	
	Downlink	Low	3710.01	647334	
20	&	Mid	3750	650000	30
	Uplink	High	3789.99	652666	
	Downlink	Low	3715.02	647668	
30	&	Mid	3750	650000	30
	Uplink	High	3784.98	652332	
	Downlink	Low	3720	648000	
40	&	Mid	3750	650000	30
	Uplink	High	3780	652000	
	Downlink	Low	3725.01	648334	
50	&	Mid	3750	650000	30
	Uplink	High	3774.99	651666	
	Downlink	Low	3730.02	648668	
60	&	Mid	3750	650000	30
	Uplink	High	3769.98	651332	
	Downlink	Low	3735	649000	
70	&	Mid	3750	650000	30
	Uplink	High	3765	651000	
	Downlink	Low	3740.01	649334	
80	&	Mid	3750	650000	30
	Uplink	High	3759.99	650666	
	Downlink	Low	3745.02	649668	
90	&	Mid	3750	650000	30
	Uplink	High	3754.98	650332	
	Downlink	Low	/	/	
100	&	Mid	3750	650000	30
	Uplink	High	/	/	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 <u>https://www.sgs.com/en/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 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) tested and such ample(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,



SZEMC-TRF-01 Rev. A/1

2450-2550-

Report No.: SZCR241200460905 Page:

CBW [MHz]	Range	!	Carrier centre [MHz]	Carrier centre [ARFCN]	SS block SCS [kHz]
	Downlink	Low	3455.01	630334	
10	&	Mid	3500.01	633334	30
	Uplink	High	3544.98	636332	
	Downlink	Low	3457.5	630500	
15	&	Mid	3500.01	633334	30
	Uplink	High	3542.49	636166	
	Downlink	Low	3460.02	630668	
20	&	Mid	3500.01	633334	30
	Uplink	High	3540	636000	
	Downlink	Low	3465	631000	
30	&	Mid	3500.01	633334	30
	Uplink	High	3534.99	635666	
	Downlink	Low	3470.01	631334	
40	&	Mid	3500.01	633334	30
	Uplink	High	3529.98	635332	
	Downlink	Low	3475.02	631668	
50	&	Mid	3500.01	633334	30
	Uplink	High	3525	635000	
	Downlink	Low	3480	632000	
60	&	Mid	3500.01	633334	30
	Uplink	High	3519.99	634666	
	Downlink	Low	3485.01	632334	
70	&	Mid	3500.01	633334	30
	Uplink	High	3514.98	634332	
	Downlink	Low	3490.02	632668	
80	&	Mid	3500.01	633334	30
	Uplink	High	3510	634000	
90	Downlink	Low	3495	633000	
	&	Mid	3500.01	633334	30
	Uplink	High	3504.99	633666	1
	Downlink	Low	\	\	
100	&	Mid	3500.01	633334	30
	Uplink	High	\	\	



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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 5 **Equipment List**

RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
Signal Generator	Rohde & Schwarz	SMR 20	SZ-WRG-M-034	2024/08/19	2025/08/18
MXG Vector Signal Generator	Keysight	N5182B	SZ-WRG-M-015	2024/01/30	2025/01/29
Spectrum Analyzer	Keysight	N9030B	SEM004-30	2024/09/04	2025/09/03
Radio Communication Tester	Anritsu	MT8821C	SZ-WRG-M-014	2024/08/19	2025/08/18
Radio Communication Test Station	Anritsu	MT8000A	SZ-WRG-M-013	2024/08/17	2025/08/16
DC power supply	HYELEC	HY3005B	SZ-WRG-M-024	2024/10/12	2025/10/11
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2024/03/19	2025/03/18
Humi/ Temp Indicator	Shanghai Meteorological Industry Factory	HTC-1	SZ-WRG-M-077	2024/05/28	2025/05/27
Test Software	TST PASS	TST PASS V2.0	N/A	NCR	NCR



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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

Radiated spurious emissions					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
MXE EMI receiver (3Hz-3.6GHz)	KEYSIGHT	N9038B	SEM004-29	2024/08/14	2025/08/13
Signal &Spectrum Analyzer	Rohde & Schwarz	FSV	SZ-WRG-M-048	2024/01/30	2025/01/29
Pre-amplifier (30MHz-1GHz)	SGS	AMP30M1G30	SEM005-33	2024/03/05	2025/03/04
Low Noise Amplifier 30M-8GHz	Tonscend	TAP30M8G30	SZ-WRG-M-050	2024/01/30	2025/01/29
Low Noise Amplifier 1G-18GHz	Tonscend	TAP01018050	SZ-WRG-M-051	2024/01/30	2025/01/29
Low Noise Amplifier 18G-40GHz	Tonscend	TAP18040048	SZ-WRG-M-052	2024/01/30	2025/01/29
Active Loop Antenna 9kHz-30MHz	SCHWARZBECK	FMZB 1519B	SZ-WRG-M-053	2023/12/25	2025/12/24
TRILOG Breitband Antenne 30MHz-1GHz	SCHWARZBECK	VULB 9168	SZ-WRG-M-054	2023/12/25	2025/12/24
Double Ridge Horn Antenna 1GHz-18GHz	SCHWARZBECK	BBHA 9120 D	SZ-WRG-M-055	2023/12/21	2025/12/20
SHF-EHF Horn 15GHz-40GHz	SCHWARZBECK	BBHA 9170	SZ-WRG-M-056	2023/12/25	2025/12/24
RSE Test Software	Tonscend	JS32-RSE V4.0.0	SZ-WRG-M-058	NCR	NCR
RE Test Software	Tonscend	JS32-RE V4.0.0	SZ-WRG-M-059	NCR	NCR
Measurement Software	AUDIX	e3 V8.2014-6- 27	NCR	NCR	NCR
Chamber	CRTSGSSAC966	N/A	SZ-WRG-C-063	2022/01/05	2025/01/04
Humidity/ Temperature Indicator	Deli	8838	SEM002-46	2024/07/24	2025/07/23
Spectrum Analyzer	Keysight	N9020A	SZ-WRG-M-002	2024/08/17	2025/08/16
Radio Communication Tester	STARPOINT	SP9500	SZ-WRG-M-083	2024/05/24	2025/05/23

Remark: NCR=No Calibration Requirement.



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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

# 6 Description of Tests

#### 6.1 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 <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

### 6.2 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



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 <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

or email: <u>CN, Doccheck@sgs.com</u> No.1 Workshop, N-10, Midde Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn

中国・广东・深圳市南山区科技园中区MI-10栋1号厂房 邮编:518057 t(86-755)26012053 f(86-755)26710594 sgs.china@sgs.com Member of the SGS Group (SGS SA)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 6.3 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>https://www.sgs.com/en/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 does not exonerate parties to a transaction from exercising all their rights and obligations 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: <u>CN\_Doccheck@sgs.com</u> IN(Wintskib, <u>Windbiskow, Siense Henhon Park landan Dishid, Shenden, Clima 518057</u> t (86-755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

### 6.4 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 peak or peak hold power.

#### **Remark: Reference test setup 1**

#### Test Settings

- 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
- VBW > 3 x RBW
- 5. Detector = RMS
- Number of sweep points ≥ 2 x Span/RBW
- Trace mode = trace average for continuous emissions, max hold for pulse emissions
- 8. Sweep time = auto couple
- 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 <u>https://www.sgs.com/en/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indennification 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. ample(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,

No.1 Workshoo, N-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guanadona, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 6.5 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 of the fundamental emission of the transmitter may be employed. 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 <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. 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 solid 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 6.6 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
- 2. Frequency = carrier center frequency
- 3. Measurement BW > Emission bandwidth of signal
- 4. The signal analyzer was set to collect one million samples to generate the CCDF curve
- 5. 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 <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. 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 solution the document Section 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

# 6.7 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 (dBµV/m) = Measured amplitude level (dBµV) + (Cable Loss (dB) + Antenna Factor (dB/m) – AMP(dB)) EIRP (dBm) = E (dBµV/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 $\mu$ V/m) = Measured amplitude level (dB $\mu$ V) + (Cable Loss (dB) + Antenna Factor (dB/m) AMP(dB)) EIRP (dBm) = E (dB $\mu$ 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

Remark:

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

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier (dB)

Level = Reading Level + AF + Factor -95.26

Margin = Limit – Level

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.



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>https://www.sgs.com/en/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 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 // No.1Worksho, Wil, Midd & Kons, Skine & Biothody Ph. Low - 10471 号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn 中国 · 广东 · 深圳市南山区科技园中区M-10471号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com

Member of the SGS Group (SGS SA)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

## 6.8 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  $\pm 0.00025\%$  ( $\pm 2.5$  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 <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. 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 spinolise 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443,

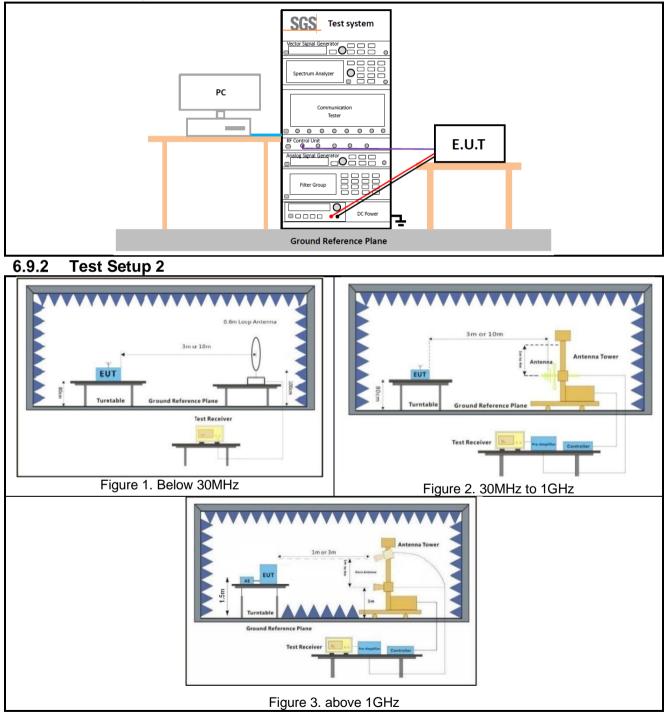


SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

## 6.9 Test Setups

#### 6.9.1 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 <u>https://www.sgs.com/en/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 so 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 focuments. This document does not exonerate parties to a transaction from exercising all their rights and obligations 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@gs.com
[N. Wwitaby.Hull.Midd Scienci, Stenze Itemidy Park Insten Distric, Shenzhen, Guagdong, Clims 518057 t (86-755) 26012053 f (86-755) 26710594 www.sgsgroup.com.cn

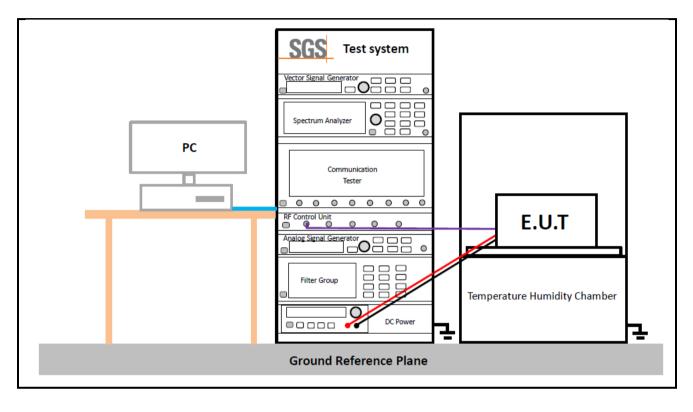
main mutasing, m-ing mutaresetuan, demine a realizing rain hainsian using, demining, demining to a regulation of the state of the st



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

#### 6.9.3 **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>https://www.sgs.com/en/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 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) tested and such ample(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,

Na. 1 Workshop, M-10, Middle Section, Science & Technology Park, Nanshan District, Shenzhen, Guangdong, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

### **6.10Test 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	NR/TM1; NR/TM2; NR/TM3; NR/TM4; NR/TM5; NR/TM6; NR/TM7; NR/TM8; NR/TM9			
	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	NR/TM1; NR/TM2; NR/TM3; NR/TM4; NR/TM5; NR/TM6; NR/TM7; NR/TM8; NR/TM9			
	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	NR/TM1; NR/TM2; NR/TM3; NR/TM4; NR/TM5; NR/TM6; NR/TM7; NR/TM8; NR/TM9			
	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	NR/TM1; NR/TM2; NR/TM3; NR/TM4; NR/TM5; NR/TM6; NR/TM7; NR/TM8; NR/TM9			
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)			



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 <a href="https://www.sgs.com/en/Terms-and-Conditions">https://www.sgs.com/en/Terms-and-Conditions</a>. 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) 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) 28071443, or email: CN\_Doccheck@gs.com</a> (Mode Scion, Skine& Heinking Pat, kankan Dishid, Skine, Guagdong, Clima 518057 t (86-755) 260710594 www.sgsgroup.com.cn email: Ch. Doccheck@gs.com</a>



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

Test Mode	NR/TM1; NR/TM2; NR/TM6				
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	NR/TM1; NR/TM2; NR/TM6				
	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	NR/TM1 Remark: All bandwidth and modulation of NR have been pre tested, and only the worst results are reflected in the report.				
	Frequency Stability				
Test Case	Test Conditions				
Test Environment	<ul> <li>(1) -30 °C to +50 °C with step 10 °C at Rated Voltage</li> <li>(2) VL, VN and VH of Rated Voltage at Ambient Climate.</li> </ul>				
Test Setup	Test Setup 3				
RF Channels (TX)	M (M= middle channel)				
Test Mode	NR/TM1; NR/TM2; NR/TM3; NR/TM4; NR/TM5; NR/TM6; NR/TM7; NR/TM8; NR/TM9 The report only show the bandwidth with the worst case.				



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>https://www.sgs.com/en/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 form 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 authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: (SN\_Doccheck@egs.com)



SZEMC-TRF-01 Rev. A/1

Report No.: SZCR241200460905 Page:

# 7 Appendixes

SZCR2412004609 Appendix	Setup Photo
Appendix B.21	NR Band n2
Appendix B.22	NR Band n5
Appendix B.23	NR Band n7
Appendix B.24	NR Band n26(814-824)
Appendix B.25	NR Band n26(824-849)
Appendix B.26	NR Band n38
Appendix B.27	NR Band n41
Appendix B.28	NR Band n66
Appendix B.29	NR Band n77(3450-3550)
Appendix B.30	NR Band n77(3700-3980)
Appendix B.31	NR Band n78(3450-3550)
Appendix B.32	NR Band n78(3700-3800)

---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 <u>https://www.sgs.com/en/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 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@ess.com** 

Marker Chr. Dorother & Bennology Park, Nanshan District, Shanzhen, Guangdong, China 518057 t (86–755) 26012053 f (86–755) 26710594 www.sgsgroup.com.cn 中国・广东・深圳市南山区科技园中区M-10栋1号厂房 邮编: 518057 t (86–755) 26012053 f (86–755) 26710594 sgs.com

Member of the SGS Group (SGS SA)